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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume V - Common Data Model Subsystem
Part 49 - CDM IRDS Feature Evaluation Report

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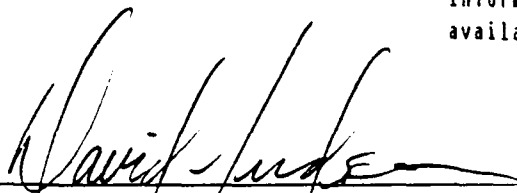
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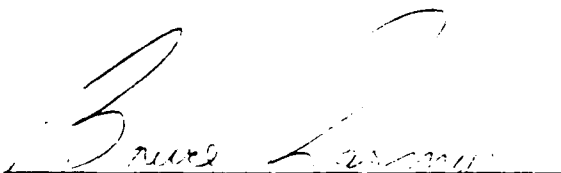
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FOREWORD

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The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

<u>SUBCONTRACTOR</u>	<u>ROLE</u>
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.
Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface, and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

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SECTION 1
INTRODUCTION

The CDM IRDS Feature Evaluation Report provides a comparison between the Common Data Model (CDM) subsystem, an information integration tool, and the IRDS Standard, an ANSI and FIPS information resource standard. The intent of the comparison is to provide insights into the nature of each, and provide insights for both management and information technologists as to the direction each might be extended.

Appendix A contains the technical report in its entirety.



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APPENDIX A

CDM IRDS FEATURE EVALUATION REPORT

A Comparison Study of the
Common Data Model (CDM) with the
Information Resource Dictionary System Standard
(American National Standard IRDS
[ANSI IRDS X3.138-1988])

1 November 1989

Prepared for:
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 CONTROL DATA

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CHAPTER 1

INTRODUCTION

Over the past five years, thousands of articles, papers, and books have been written concerning information management and the vital role information now plays as a critical resource for any successful enterprise, government or industry. Managers and data technicians at all levels of industry and government are increasingly aware that proper information utilization, not just information per se, is a driving factor in systems cost throughout product lifecycle. Nowhere is the problem of *organizing* and *moving* information more acute than in the DoD community where large, exceedingly complex enterprises, both contractor and government, are responsible for conceiving, designing, manufacturing, modifying, and supporting state-of-the-art weapons systems across a life-cycle spanning up to five decades.

In order to cope with the mass of data associated with all levels of system support, both industry and government are pressing for the development of both information standards and information integration tools which will facilitate information management and effective data utilization across the boundaries currently imposed by the complexity, diversity and distribution of organizational functions, hardware and software.

The purpose of this document is to provide a comparison between the Common Data Model (CDM) system, an information integration tool, and the IRDS Standard, an ANSI and FIPS information resource standard. The intent of the comparison is to provide insights into the nature of each, and provide insights for both management and information technologists as to the direction each might be extended.

How This Document is Organized

Because this subject is very specialized and because we would like this paper to be as useful as possible to a fairly broad spectrum of readers, we have organized this document into three sections: Overview, CDM-IRDS Comparison, and CDM-IRDS Potential. The Overview section has been included to familiarize readers with the general nature of the problems addressed, provide a definition and overview of the CDM, a definition and

overview of the IRDS, and an explanation of what IRDS compliance requires. This discussion provides the necessary background to understand the key issues in the more technical CDM-IRDS comparison section. This section summarizes the detailed analysis where 495 entities and attributes, and 1134 relationships were compared, along with the functions these entities, attributes, and relationships support. This detailed analysis appears in the Appendices. The third section discusses Potential attempts to provide some insights into possible future directions and coordination of each.

Various terms often have widely different meanings. We have therefore attempted to define each term carefully as used in the context of this document. The Common Data Model (CDM) discussed here is the current CDC product, the CDM*plus, Release 1.0, as opposed to the original public domain code developed for the Air Force under the Integrated Information Support System (IISS). While the Release 1.0 product has been improved with added functionality and support, as well as improved performance, the basic data dictionary functionality in the product closely parallels the public domain concepts. Therefore, technical specifications to bring the CDM*plus to full IRDS compliance apply equally well to the public domain code.

CHAPTER 2

OVERVIEW

Enterprise data comes in many forms and involves complex relationships. In order to utilize that data, it must be described in repositories (i.e., databases or files), and we must understand the relationships and interdependencies between different data items. Therefore, a body of *data about the data* must be developed to describe, track, and manage those dependencies and relationships in the Enterprise data. This "data about the Enterprise data" is often referred to as "meta-data" and is properly managed with a specialized information resource *application* called a "Data Dictionary," an "Information Resource Dictionary (IRD)," or a "Repository". A key then to effective information utilization is the development of a sound Dictionary, a tool and structure facilitating the management of that data which *describes* the enterprise data. We like Jerry Winkler's definition: "The IRDS is a special application that is created using a file system or DBMS. The IRDS is intended to be used as the principal source for information needed to understand the information environment of an organization. It might better be called an Inventory System for the Information Environment. It is intended to be the principal tool for managing the information resource assets of an organization."¹

If we understand the Information Resource Dictionary in this way, necessary requirements and aspects of such a structure are immediately obvious, and sources for confusion also manifest themselves. For example, it would seem that an IRD could be thought of as a kind of "specialized" database, a database about databases. The problem with this view is that it is too limiting. The Dictionary must provide *tools* and *mechanisms* to facilitate the organization and storage of the Enterprise meta-data. It is indeed an application. Therefore, while all or part of a IRD could be contained in a relational database such as Oracle[®] or INGRES[™], it is not itself the database or a database management system (DBMS).

The first step in integrating an enterprise is to *understand* it. We must translate our understanding *unambiguously* into some form that is *computer interpretable*. This is accomplished with the use of a formal

¹J. Winkler, *The Entity-Relationship Approach and the Information Resource Dictionary System Standard*, (CBEMA Document Number X3H4/89-027, Spring 1989), p. 1.

information model. There are a number of good formal modeling methodologies, and the particular method is generally not critical. Because the Air Force developed and uses the IDEF entity-relationship methodology, it was incorporated into the CDM and is supported by the CDM*plus product. The IRDS standard does not specify a particular modeling methodology. Nevertheless, a formal modeling method must be employed to develop an unambiguous, computer-interpretation description of the enterprise data and business rules (i.e., data relationships).

Once the model is defined, it is captured and described in the information resource dictionary. Ideally, the IRD implementation should supply a set of tools to assist the various users of the dictionary. The users of an Information Resource Dictionary can be divided into five categories:

- Management, who uses the dictionary as an inventory of information necessary for decision making in the project management, configuration management, and cost control areas.
- Data Administrators, who are responsible for the integrity and use of the dictionary and its contents.
- Operational Users, who extract information from the dictionary to perform job-related activities, such as data modeling, process modeling, and applications development.
- Software Tools, such as code generators, which interact with the dictionary without human intervention and provide access to the "real world" data the dictionary describes.
- CASE Tools, which interact with the dictionary dynamically, to support job-related activities such as data modeling and process modeling.

In order to properly compare the CDM and IRDS, it is necessary to understand the role of each. CDM "compliance" to the IRDS is relevant only in those areas where their purposes intersect. Where the CDM supports functionality not directly associated with, albeit dependent on, an information resource dictionary, IRDS compliance is not relevant. We must therefore understand the purpose of the CDM, the purpose of the IRDS, where those purposes intersect, and within that intersection, what constitutes IRDS compliance.

The CDM: Its Origin, Purpose and Function

In 1977, the Air Force established the Integrated Computer-Aided Manufacturing (ICAM) program to improve productivity in the aerospace

industry through the implementation of computer technology. The IISS project was initiated in 1981 because the Air Force recognized that better management and utilization of the corporate data resource was critical to producing better quality, more cost-effective weapons systems. Coalitions from academic institutions, aerospace manufacturers, and computer manufacturers were formed to design and develop IISS. The purpose of IISS was to create and demonstrate a prototype system capable of integrating data in a heterogeneous computer and database environment in a manner that would:

- Provide data and location transparency to end-users and application developers.
- Improve data consistency, quality, and timeliness.
- Guarantee referential integrity of data across hardware/software boundaries.
- Reduce data redundancy caused by incompatible hardware/software.
- Allow manufacturers to take advantage of new technology by providing an environment in which both new and old technologies could interact.

The IISS system was architected with several subsystems: 1) a User Interface (UI) System to provide a transparent, terminal-independent menu-driven end-user interface to automated systems; 2) a Common Data Model (CDM) System to provide a three-schema definition of, and transparent access to, the information resources of the enterprise, 3) a Network Transaction Management and Communications (NTM/COMM) System to provide process-to-process and peer-to-peer messaging and data transfer facilities. A fully operational prototype was demonstrated at Arizona State University in 1987.

The CDM was not developed as an information resource dictionary per se, but as an application suite designed to facilitate enterprise integration. Therefore, while the CDM contains the kinds of functionality found in an IRD, it is not "just" a dictionary. Because the CDM is a broad-based integration product, its functionality extends outside the IRDS at both the high-level abstraction end where enterprise data and business rules are defined and stored, and at the application level, where real-world applications are built (see Figure. 1). For the purpose of this paper, we will focus primarily on the dictionary aspects of the CDM.

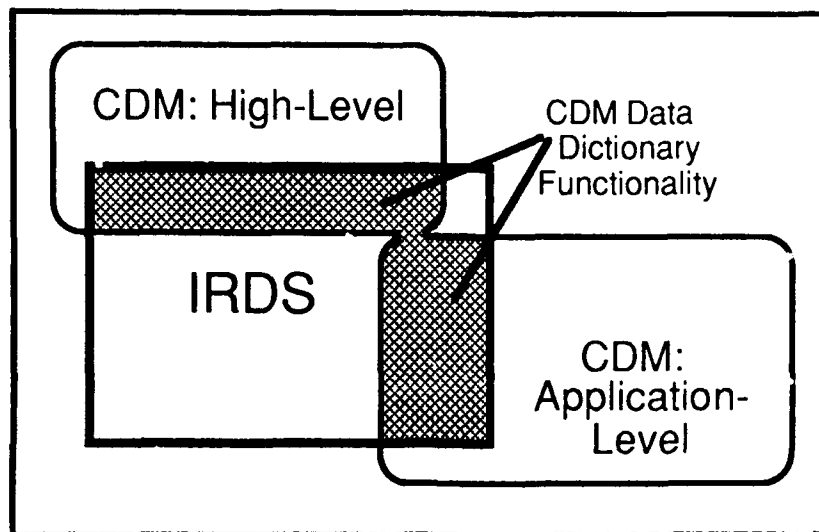


Figure 1: CDM-IRDS Relationship

The CDM can be defined as a set of software components with structure, language, and facilities for defining, controlling, accessing and integrating enterprise data and meta data. It is a three-schema dictionary/directory with database management capabilities that provide transparent access to information in a heterogeneous hardware and software environment. The CDM system can be thought of as having three basic modules: a Data Dictionary module, an Application Development module, and an Access module. These modules are supported by a data definition language, a data manipulation language, and a utilities tool kit.

CDM Approach: Model Type

The CDM utilizes a four-layer, three-schema approach to information definition, where information at one layer describes and controls information at the next lower level.

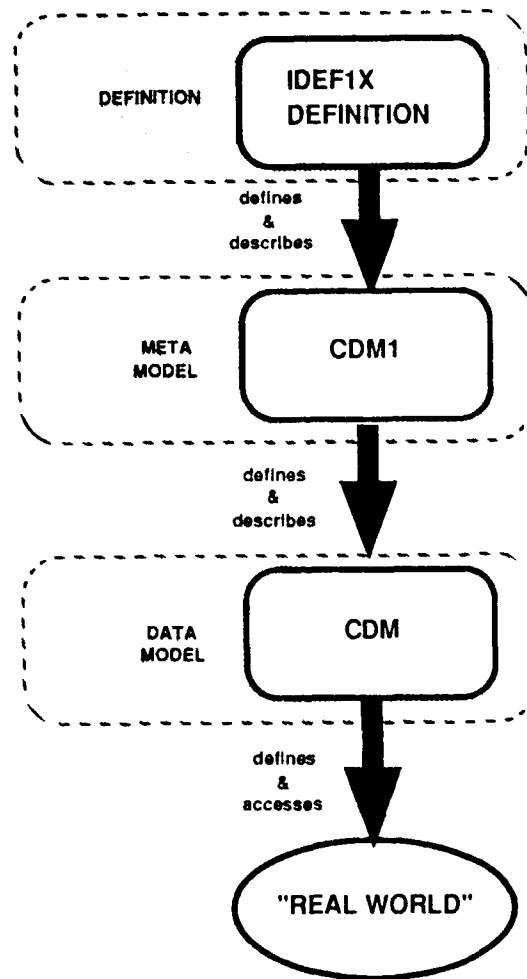


Figure 2: The CDM Levels

The four layers of architecture are:

Layer 1 - The IDEF1X Definition

The IDEF1X is a rigorous Entity-Relationship (ER) modeling methodology which permits definition of entities, attributes, and relationships. The model is a third normal form model and specifies ownership, inheritance, and integrity constraints. Relationships are directed, specific (0,1:0,m) relationships between two entities. Further, the dependent entity in a relationship always inherits the primary key attributes of the independent entity as either key (identifying) or non-key (non-identifying) attributes. Attributes which are owned by one entity cannot also be owned by another entity. Attributes cannot be repeating, cannot be null, and non-key attributes cannot be inherited. Entities may be categorized as super-types (generalization entities) or

as sub-types (category entities). Sub-type categories may be defined as complete or incomplete.

Layer 2 - The CDM1

The CDM1 is the schema definition (IDEF1X model) of the three-schema CDM dictionary. It defines the attributes of, and the relationships between, the entities in each of the schemas, and defines associative entities which relate the entities and attributes of the conceptual schema to the entities and attributes of the other schemas. The following types of entities are defined:

Globally:	<i>Domain, Data type, Description, Software Module</i>
In the Conceptual Schema:	<i>Model, Entity, Attribute, Relation</i>
In the External Schema:	<i>View, Data item, Logical Unit of Work, View Restrictions, Generated Software Module</i>
In the Internal Schema:	<i>Host, DBMS, Database, Record, Data field, and Set</i>
Conceptual to Internal Schema Mappings:	<i>Entity-Record (correspondence), Entity-Record Union, Entity- Record Join, Horizontal Partition, Complex Mapping Algorithm, Attribute-Field Mapping, Relation-Set Mapping</i>
Conceptual to External Mappings:	<i>View-Entity Cross Reference, Projected Data item</i>
Schema to Software Usage:	<i>Data item Usage, View Usage, Record Usage, Data field Usage</i>

(The preceding list is not complete, but gives the reader a general appreciation of the types of meta-entities defined.)

Entities involved in relationships with dependent entities cannot be deleted if dependent entity instances exist. The inverse is also true: dependent entity instances may not be created if the parent entity instance does not exist.

Maintenance of the CDM1 schema is not required, unless the user wishes to extend it.

Functionality for operating on this layer is contained in the NDDL command language, the NDDL panel interface, and in the Tool Kit utilities.

CDM

IDEF1X DEFINITION

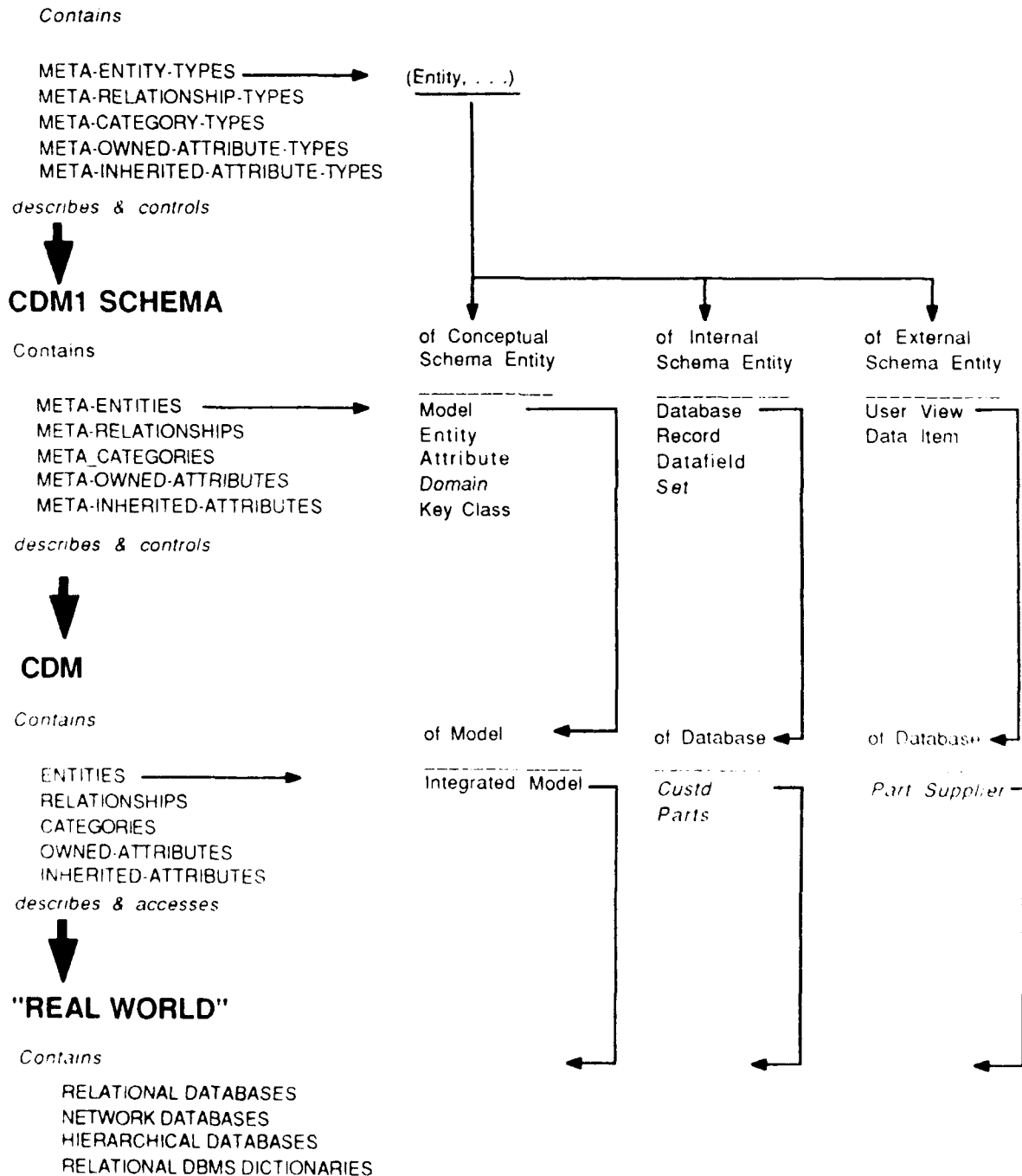


Figure 3: CDM Level Contents

Layer 3 - The CDM

The CDM contains the definitions of the "real world" data in layer 4. The definitions describe the data from three perspectives. Conceptual Schema, Internal Schema, and External Schema. The CDM defines what data is required from a logical point of view for the enterprise to function (global conceptual schema); what automated physical data exists (internal schema); how the data is grouped from the user's or application's point of view (external schema). In addition, the CDM defines a rich set of mappings between what is logically required, what exists, and how it's viewed. Finally, the CDM defines where-used relationships between the three schemas, and between the schemas and generated code. It is the where-used relationships that enable centralized configuration management of the information resource.

Maintenance of the CDM is required. Functionality for operating on this layer is contained in the NDDL language, NDDL panel interface, dictionary utilities, and the NDML/SQL data manipulation language.

Layer 4 - The "Real World" Data

The "real world" data that is described to the CDM is the data in production databases and the meta data in dictionaries with a SQL interface.

Functionality for operating on this layer is contained in the NDML and SQL data manipulation languages

CDM: Basic Components

Data Dictionary Module

The Data Dictionary module provides the model and structure for the CDM, provides an interface for defining and maintaining information in the dictionary, and provides various dictionary maintenance utilities to assist the CDM administrator and CDM users with mass-loading, impact analysis, and reporting functions. Both a command language and a menu-driven panel interface are available to populate and maintain the CDM. The command language is known as the Neutral Data Definition Language

(NDDL). The panel interface, known as NDDL Forms, implements the semantics of the language without requiring the user to know the syntax. One of the key features of the CDM is its ability to store and manipulate multiple data models. Thus, additional IDEF1X models can be stored until their meaning is integrated into the conceptual schema. NDDL and NDDL Forms provide the ability to perform comparison, merging, copying, and combining operations between models.

Application Development Module

The Application Development module provides the Neutral Data Manipulation Language (NDML), ANSI standard embedded SQL, and facilities for building applications which access and update "real world" data in a manner transparent to both the application developer and the end-user.

The NDML language can be thought of as an extended, simplified SQL. While the syntax is very close to SQL, there are some differences, since the language was developed prior to the adoption of an ANSI standard for SQL. The most notable differences are that NDML provides an outer join capability, and NDML does not require the declaration and manipulation of cursors as does embedded SQL. Support for a dynamic dml prototype is under development.

The application facilities consist of a precompiler, a 3GL code generator, and a code manager. Programmers use either a 4GL such as the Application Development Language (ADL) from the User Interface (UI) system or 3GL languages (COBOL, FORTRAN, or C) to develop applications. These applications contain NDML or SQL statements which commit, rollback, select, insert, modify, or delete information in views. In this context, view means an External Schema view defined in the CDM. A view is composed of one or more entities joined together, but functions as if it were a single relational table.

The precompiler and code generator parse and transform the NDML or SQL statements into separate retrieval or update programs containing native DBMS manipulation language statements, based on the mapping information contained in the CDM. A single NDML or SQL statement is decomposed into as many different DBMS languages as necessary to satisfy the request. All information necessary to manage the aggregation, sorting, and final transformation of intermediate results is also generated, and the schema to software usage information in the CDM is created or updated. In the case of insert, update and delete actions, referential integrity checks are automatically generated, based on the

conceptual schema. Therefore, the referential checks can span database and hardware platform boundaries. Completing the application development suite is a code manager which generates all procedures necessary to precompile native DBMS statements, compile the programs, link and store executable(s) on the appropriate nodes of the network. Currently, ORACLE, INGRES, DB2, IDMS and VAX DBMS are supported on VAX/VMS, IBM/MVS, and UNIX configurations.

Access Module

The Access Module is composed of a superset of distributed DBMS management functions and network transaction management functions. An Access Module is required for every node on the network. The Access Module residing on the same node as the user application initiates a series of parallel processes, on the same network peer and/or on different network peers, based on information generated into the user application by the CDM precompiler. The Access Module monitors messages between processes and between peers, and invokes join, append, and not-in-set data aggregators and file transfer routines when and as needed, until a final result is produced and delivered to the user application.

CDM: Definition Language and Utilities

Neutral Data Definition Language and Panel Interface

The language and the menu-driven panel interface provide the same functions. Although transparent to the CDM user, the panel interface generates and executes NDDL commands based on the panel selection and the data entered on the designated panel. NDDL commands may be executed interactively or as a batch process. In the interactive mode, NDDL commands may be executed from the command line or from a sequential file. The same commands are used to define the CDM1 schema and the CDM.

The NDDL commands control:

CDM session defaults	These commands direct output and control commit and rollback operations.
----------------------	--

Create, alter, drop,
describe, rename, and
copy operations

Create, alter, drop, describe and copy operations apply to each of the schemas, and to the interschema mappings. Rename operations apply only to the schemas. Copy operations may be performed on individual entities or on entire structures, such as models, databases, or views. The output of a copy operation is NDDL command syntax for creating a new instance of the copied entity or structure. Schema to Software Usage information is created and maintained automatically by the CDM precompiler.

Data model validation,
comparison, and merging
operations.

One of the key features of the CDM is that any number of data models may be stored in the CDM conceptual schema. Only one of the models, the model designated as the Integrated Model, is mapped to the external and internal schemas. All other models may be in various stages of definition and normalization. The NDDL language provides a number of model maintenance commands which allow the user to copy entire hierarchical structures, combine entities, check the model for conformance to IDEF1X rules, compare models for similarities, and merge models.

The following example illustrates the types of NDDL commands that would be used to conceptually and physically define a CUSTOMER entity having a ZIP-CODE attribute.

Conceptual Schema:

```
create domain ZIP-CODE
    standard type ZIP-5 unsigned 5
        type ZIP-9 unsigned 9                (optional)
    range '01001' thru '48999'                (optional)
        '98001' thru '98999' ;                (optional)
```

```
create attribute ZIP-CODE domain ZIP-CODE ;

create entity CUSTOMER
  attribute ZIP-CODE
  keyword BILLING ;                                (optional)
```

Internal Schema:

```
define record CIS-010 of database CISACCT
  with fields CIS-01092 type ZIP-5 ;
```

Conceptual - to - Internal Schema Mapping:

```
create map CUSTOMER
  to record CISACCT.CIS-010

create map CUSTOMER.ZIP-CODE
  to field CISACCT.CIS-010.CIS-01092 ;
```

Tool Kit Utilities

Additional dictionary facilities are provided in the Tool Kit which support mass-loading, reporting, and impact analysis functions.

CDM Report Utility	Generates extensive reports on all or selected portions of the CDM.
Modeling Tool Bridges	Used for mass loading and mass updating of models into the CDM. Currently, bridges exist to DACOM's IDEF/LEVERAGE tool and CDC's PRECISE/IDEF tool.
Impact Analysis	Traces the impact of changing data throughout the three schemas and the impact on the applications which use the underlying "real world" data.
Bi-directional Translator	Translates NDDL internal schema into DDL commands for a relational DBMS, or for translating relational DBMS dictionary contents into NDDL internal schema commands.

Data Model Delta Comparison	Identifies the differences between different models or between versions of the same model, and generating the appropriate NDDL commands necessary to upgrade the designated model.
CDM Administrator Procedures	Used for building an empty CDM, importing CDM1 schema definitions, importing and exporting CDM contents, creating and maintaining CDM users, and granting CDM users role privileges.

CDM: Features

Integrity Enforcement

Another of the key features of the CDM is its ability to enforce referential integrity of data within and across heterogeneous hardware and database boundaries. This is accomplished by transforming the conceptual schema relationship between a "parent" and "child" entity into the appropriate native DBMS statements, based on the conceptual to internal schema mappings. For example, if *part orders* and *contracts* are conceptually related to enforce the rule that an *part order* cannot be placed (created) unless a *contract* for purchasing the part exists, the CDM will generate a check for a *contract* for the designated *part*, regardless where either the *part* or the *contract resides*. Since the NDDL command language is an application implemented using the NDML language to perform its insert, modify and delete operations, referential integrity of all the information stored in the CDM is guaranteed.

In addition, subtype integrity, domain integrity, and entity integrity (key uniqueness) are enforced.

Extensibility

Both the model of the CDM1 and the CDM can be extended. However, there are limits to the kinds of extensions that can be defined. Extensions to the CDM1 which would alter existing meta-entities, such that the existing meta-entity would inherit additional attributes, is not supported by the NDDL Command Language. For example, the meta-entity *Record* has the

owned attribute *Record_ID*. If a new meta-entity called *Document* with a primary key called *Document_ID* were added to the CDM1, a relationship such as *Document contains Record* would not be supported, since the existing meta-entity *Record* would inherit a new attribute, namely *Document_ID*. Extensions to the CDM1 which do not alter existing attribute or add inherited attribute to existing meta-entities are supported by NDDL. For example, if the meta entity called *Document* were added to the CDM1, a relationship such as *Record-is-contained-in-Document* would be supported by NDDL.

Extensions to the CDM as defined by the CDM1 are not supported by the NDDL definition language, but are supported by the NDML/SQL data manipulation language. Thus, CDM extensions would be populated and maintained by user-written dictionary applications containing NDML or SQL statements.

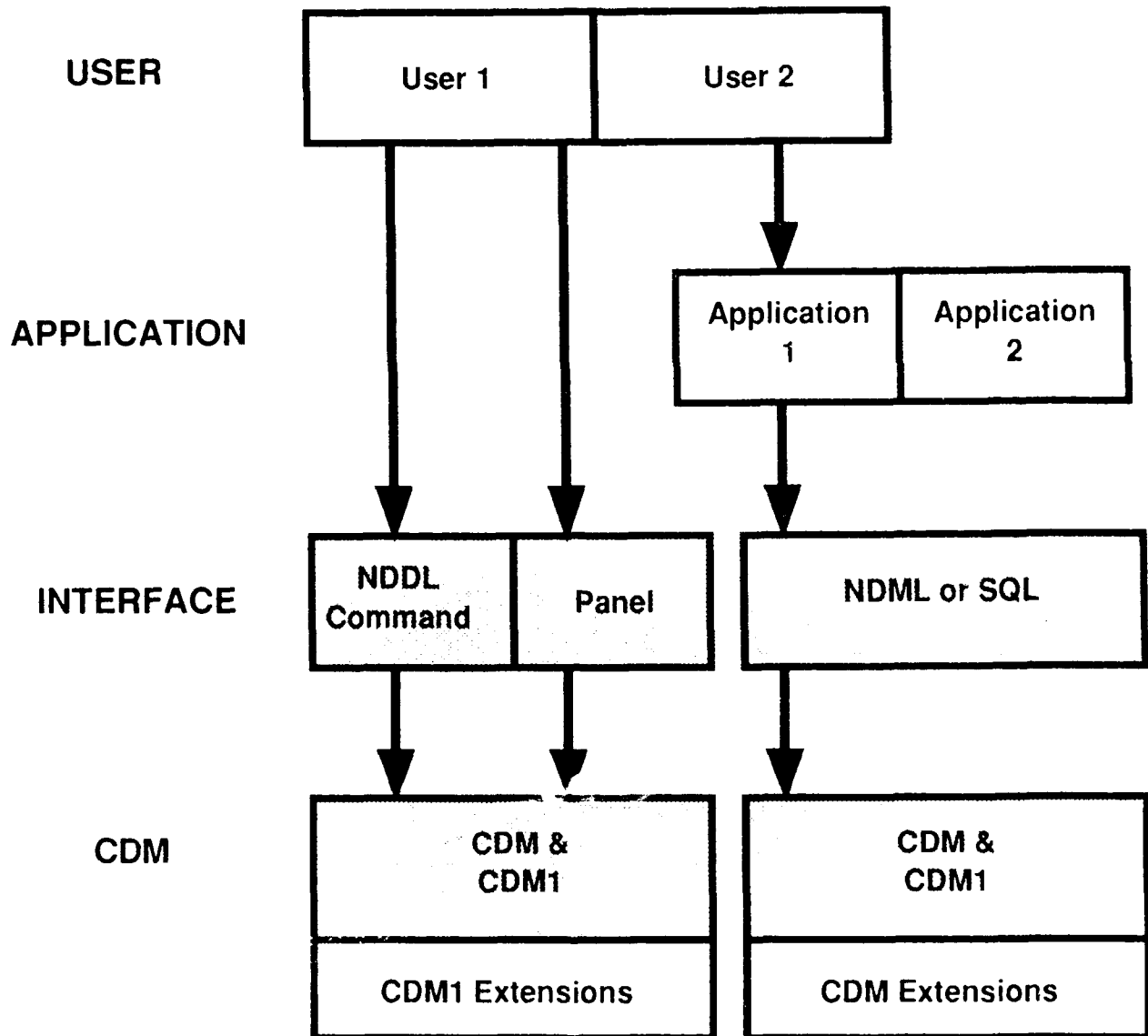


Figure 4: User Access [Layers] to CDM & Extensions

Security

The CDM provides global security by granting select and update privileges to groups of entities in the CDM based on a user's role. The entities assigned to a particular role is implementor-defined currently and cannot be changed. Security of the underlying "real world" data is controlled through the use of the external schema views, which can be defined with row restriction criteria. Security can also be controlled through the internal schema, by omitting the definition of, or mapping to, sensitive or

proprietary data. Final security, however, still remains under the control of the individual DBMS.

Life Cycle Management and Versioning

The CDM does not currently define life-cycles or control the movement of data from one life-cycle to another. Versioning of meta data within a CDM utilizing the IRDS mechanism of partitions and version numbers is not currently supported. Multiple versions of data models in the CDM may be maintained using named variants. However, a CDM administrator can easily copy or export an entire CDM and identify it as a particular version. It is anticipated that IRDS type of versioning control within a CDM will be implemented in the future.

CDM-CDM Interface

CDM to CDM interface capabilities are provided for CDM contents by the NDDL copy commands, which generate NDDL command syntax necessary to re-create the schemas and mappings of one CDM in another CDM. Export and import of the CDM1 schema can be accomplished using the CDM administrator build procedure, or by using the NDDL commands if the CDM1 schema has been explicitly defined to the CDM as a model. Note that it is the CDM Administrator's decision whether or not the CDM1 schema is explicitly defined to the CDM when a CDM is initially created.

Naming Conventions

Primary and alias names may be defined for all entities, and attributes of the conceptual schema, and may be used interchangeably to extract information from the CDM. Alias names for external and internal schema entities are not permitted, since these names must map to actual reference names in applications and databases. Names must be unique within context. For example, no two records within the same database may have the same name, such as *Tax-Table*, but records in different databases or partitioned databases may have the same name, such as *Tax-Table* in a personnel database and *Tax-Table* in a pension database. A unique identifier (access key) of any entity-type is its fully concatenated name.

CHAPTER 3

IRDS OVERVIEW

IRDS: Its Origin, Purpose and Function

In 1980, both the Institute for Computer Sciences and Technology (ICST) at the National Institute of Standards and Technology (NIST) and the American National Standards Institute (ANSI) initiated efforts to develop standards for dictionary software. The two efforts came together in 1983 when the ANSI X3H4 committee voted to adopt the ICST draft Federal Information Processing Standard (FIPS) for Data Dictionary Systems as its base document.

In developing the specifications for a standard Information Resource Dictionary System (IRDS), three major objectives were cited:

- IRDS should contain major features and capabilities that exist in current data dictionary systems.
- IRDS should be modular to support a wide range of environments and to support cost-effective procurement.
- IRDS should support portability of skills and data.

The IRDS standard includes a Core Module, plus six additional modules:

- Module 2 - Basic Functional Schema
- Module 3 - IRDS Security
- Module 4 - Life-Cycle Phase Facility
- Module 5 - IRDS Procedures Facility
- Module 6 - Application Program Interface
- Module 7 - Entity Lists

The six additional modules interface with the core module, but are independent of one another. Organizations can acquire one or more of the additional modules if it supports their requirements. Together, the seven modules constitute the "base level" standard.

An Information Resource Dictionary is defined in the standard as "a computer software system which provides facilities for recording, storing, and processing descriptions of an organization's significant

information and information processing resources." The information which is managed by this tool may cover the spectrum from manually developed documents to fully automated databases. The dictionary is to be used as the principal tool for managing the information resource assets of an organization. The IRDS is there to support:

- Facilities management of the environment
- Facilities control of the environment

IRDS Approach: Model Type

The ANSI IRDS is based on 4-layer single-schema architecture. Information at one level describes and controls information at the next lower level (except control is not maintained for the lowest level which is the "Real World" information resources, i.e., files).

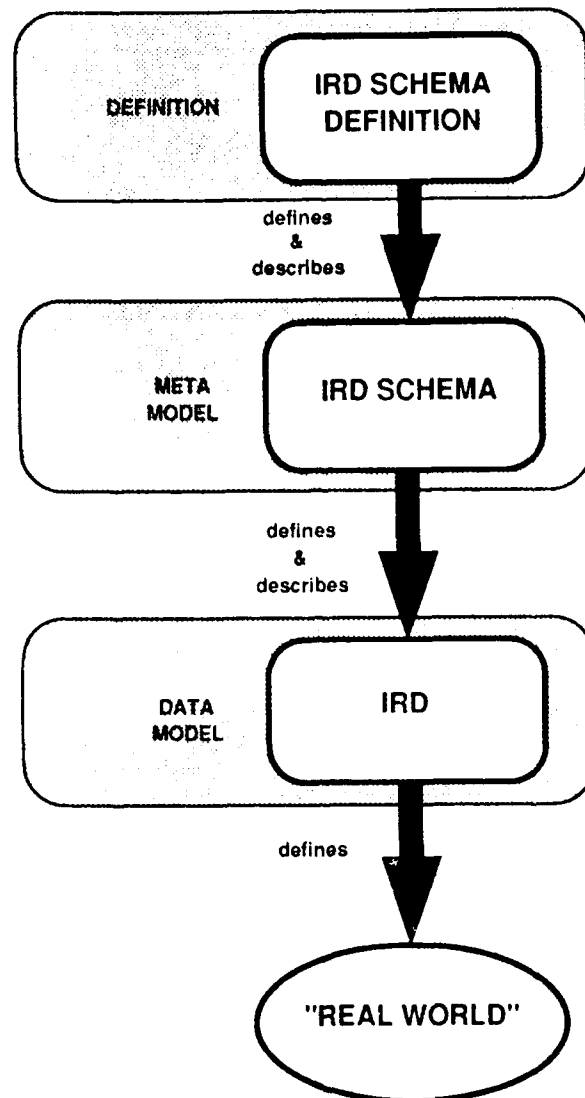


Figure 5: The IRDS Levels

Layer 1 - IRD Schema Definition

A binary Entity-Relationship (ER) model permits the definition of entities, attributes, attribute groups, and relationships. Relationships in the IRDS may have the following characteristics:

- Relationships may be recursive, relating an entity to itself;
- Relationships are directed such that a relationship from entity A to entity B is not the same as a relationship from entity B to entity A;
- Multiple relationships may occur between the same pair of entities;
- Relationships may be non-specific many-to-many (0,M:0,m).

Attributes within the IRDS may be used to describe entities and/or relationships. Attribute-groups are ordered sets of two or more attributes which are used together such as date-time. Within the IRDS attributes may be required or optional, repeating or singular.

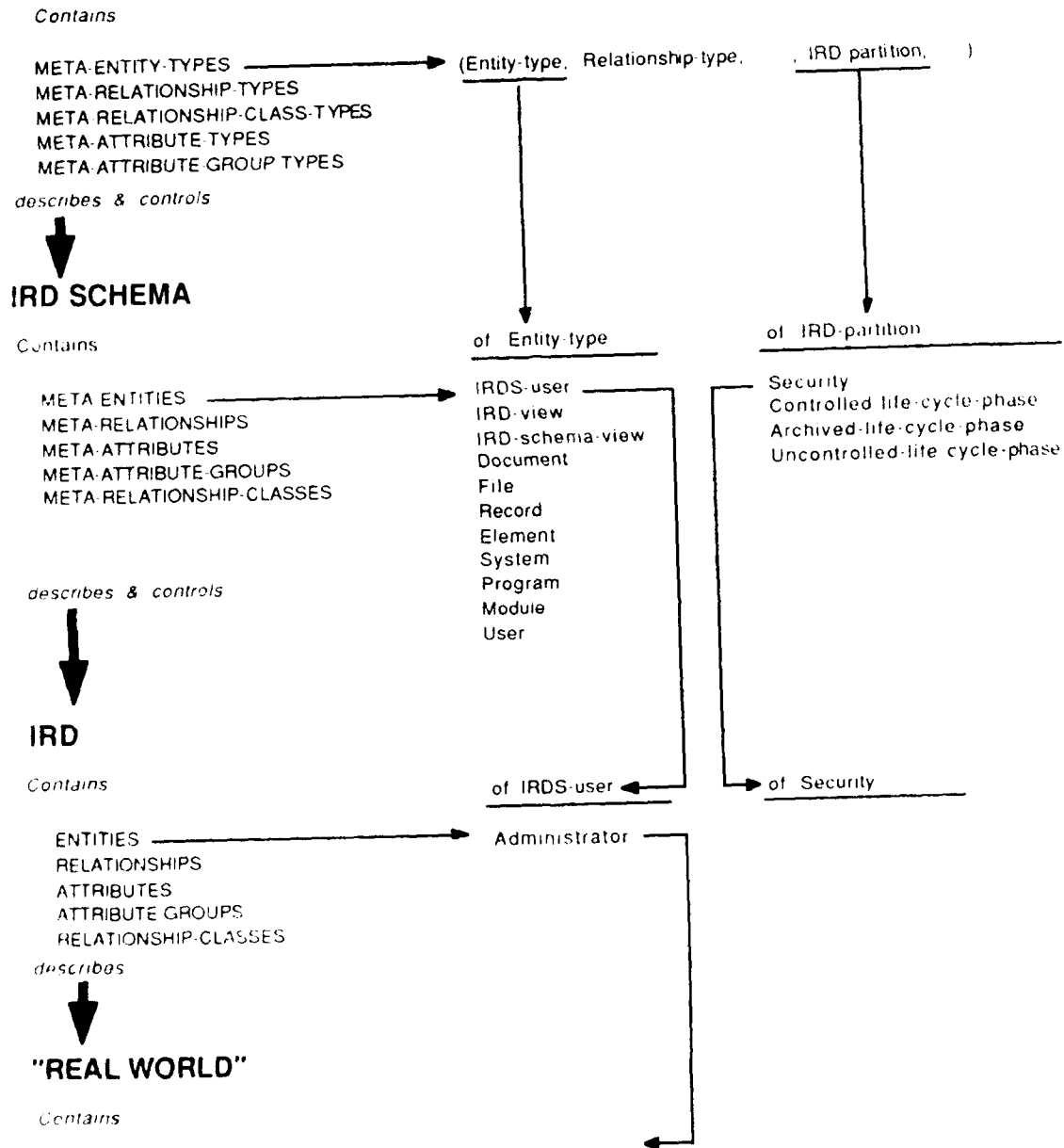
Layer 2 - The IRD Schema

The IRD Schema defines the structure and contents of the IRD. The set of entities, attributes and relationships specified in the standard deal with information from a configuration management point of view. A minimal schema consisting of IRD access information is defined by the entities *Life Cycle-Phase*, *IRD-Partition*, *Access-Controller*, *IRD-User*, *IRD-View*, and *IRD-Schema-View*. This is the required schema for ANSI compliance. A basic functional schema consisting of configuration management information about physical structures is defined by the entities *Document*, *File*, *Record*, *Element*, *System*, *Program*, *Module* and *User*. The basic functional schema is required for FIPS compliance.

Maintenance of the IRD schema is required. Functionality for operating on this layer is contained in the IRDS command language and panel interface.

IRDS

IRD SCHEMA DEFINITION



8 01 89

Figure 6: IRDS Levels and Contents

Layer 3 - The IRD

The IRD contains the definitions of the "real world" data in layer 4. The definitions describe the data from an a physical storage view-point. A basic set of data administration attributes is stored for all definitions, such as *Default-View*, *Added-By*, *Date-Time-Added*, *Date-Time-Modified*, and *Descriptive Name*. Other attributes stored are related to the physical characteristics of the specific entity-type, such as *Number-Of-Records* for a *File*, and *Length* and *Data-Class* (data type) for an *Element*.

Maintenance of the IRD is required. Functionality for operating on this layer is defined in the IRDS command language, panel interface, optional IRDS modules, and in the IRDS services interface specification currently being published for review.

Layer 4 - The "Real World"

The data represented may exist in both automated and non-automated systems used by an organization. No standard for accessing the automated corporate data is defined. However, a task group to investigate defining such a standard exists.

IRDS: Basic Components

The standard specifies a core module and six additional modules which provide standard options for extended capabilities. The structure of the standard allows for extension of capabilities as long as the standard structure, standard command language, and standard panel interface are not modified. Modules 2 through 7, while designed to be independent of one another, are all dependent on Module 1.

Module 1 - Core Module

The Core Module defines the minimal schema necessary to establish administrative control over the IRD Schema and the IRD. To provide flexibility, the core IRDS has facilities that allow extensions to the type of data that can be stored in the IRD. The Core also contains the two user interfaces: a command language interface and a menu-driven panel interface. The minimal schema provides the base for the control facilities that are a part of the IRDS Core. This module supports the following features:

- Life cycle phase control for the IRD schema. Life-cycle phase control includes user access permissions, versioning, and moving information in the schema layer from one life cycle phase to another.
- Limited life cycle control for the IRD.
- Export/Import facility for exchange of IRD schema and IRD data.

An IRDS user always operates in an IRD-View, an IRD-View is always part of an IRD-Partition, and an IRD-Partition is always assigned to a Life-Cycle-Phase class. Both the IRD schema and the IRD have Life-Cycle-Phase classes. The Core recognizes three Life-Cycle-Phase classes: *Uncontrolled* for non-operational stages, such as specification or design; *Controlled* for entities existing in operational systems; and *Archived* for entities no longer in use. The Core Module does not specify integrity rules for the IRD.

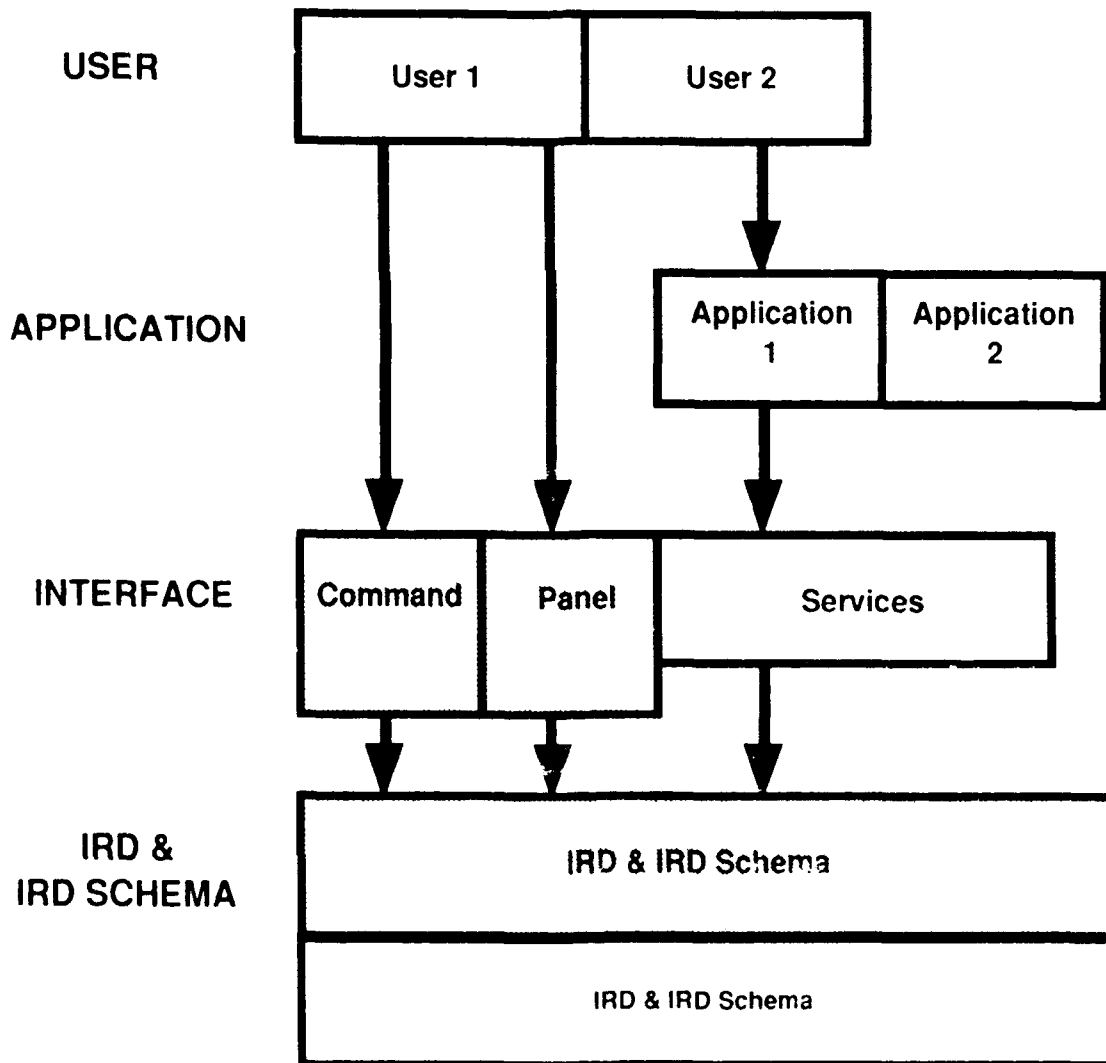


Figure 7: User Access [Layers] to IRD & Extensions

Module 2 - Basic Functional Schema

The Basic Functional Schema defines a "starter set" of meta-entities, meta-relationships, and meta-attributes. This set is intended to describe most existing and planned manual and automated systems.

The basic functional schema contains eight meta-entities: *Document*, *File*, *Record*, *Element*, *System*, *Program*, *Module*, *User*.

There are seven relationship-classes: *Contains*, *Processes*, *Responsible-For*, *Runs*, *Goes-To*, *Derived-From*, *Calls*.

Relationship-types are formed by associating a meta-entity, a relationship-class and another meta-entity, e.g., *System-Contains-Program*. The IRDS standard specifies which meta-entities and which relationship-classes can be used to form meta-relationships. For example, meta-relationships based on the relationship-class *Runs* exist between *User* and *Program*, but not between *User* and *Document*.

Attribute and attribute-group types are associated with meta-entities and with some meta-relationships. Some meta-attributes, such as *Date-Time-Stamp*, *Names*, *Descriptions*, *Added-By* apply to all meta-entities, while some attribute and meta-attribute-groups such as *Allowable Range* only apply to specified meta-entities.

Module 3 -IRDS Security

The IRDS Security module provides global security for the IRD schema and the IRD, with restrictions and permissions assigned to users based on views and partitions. For each authorized user of the IRDS, an IRDS-User entity exists with attributes defining the user's level of access. Most permissions are associated with IRD-View entities, and the permissions apply to all entities within the view. A link is established between IRDS-User and IRDS-View which establishes the permissions for a specific user. In addition, read and write locks may be assigned to individual entities, providing entity-level security. Users attempting to read or write a secured entity must know the appropriate read or write key to unlock the entity.

Module 4 - Extensible Life Cycle Phase

The Extensible Life-Cycle-Phase module provides integrity rules and customization for the life cycle management of IRD entities. The Core provides this only for the IRD Schema.

Module 5 - IRDS Procedures

The IRDS Procedure module provides a mechanism for defining and executing procedures on the IRDS. The procedures contain IRDS commands, as well as flow control and assignment statements, such as CASE, DO, and IF. This module requires that the Command Language Interface be implemented. A meta-entity called *IRDS-Procedure* is defined, and the meta-attribute *Definition* is used to store the statements of the procedure.

Module 6 - Application Program Interface

The Application Program Interface allows programming languages to call the IRDS as if it were a subroutine. Parameters are passed through the call, which include a quoted string containing one or more IRDS commands, a parameter for receiving the IRDS output, and a status code. The Command Language Interface must be implemented in order to use this module.

Module 7 - Entity Lists

This module allows users to create lists of IRD entities during a session and to manage/operate on these lists using relational set operations. The module contains extensions to the commands/panel interfaces for list processing.

Naming Conventions

The IRDS has a facility for specifying different kinds of names for entities and meta-entities. The use of and distinction between *Access-Name*, *Descriptive-Name*, *Alternate-Name*, and *Classification* is basic to understanding how the IRD functions.

The *Access-Name* for an entity or a meta-entity is its primary identifier, and must be unique throughout the IRD. The *Access-Name* consists of the *assigned-access-name* and a *version-identifier*, and is generally an abbreviated name, e.g., DD010-ZPCD. A *Classification*, if defined, functions as a group identification mechanism, e.g., ADDRESS. An IRD entity may have any number of *Identification-Names*, which consist of the two meta-attributes *Alternate-Name* and *Alternate-Name-Context*. An *Alternate-Name* is a synonym used in a specific context. For example, the *Element* whose *Access-Name* is SSN might have an *Alternate-Name* SOC-SEC-NO and a *Context* of Cobol, another *Alternate-Name* soc_sec_no and a *Context* of C.

IRD-IRD Interface

The IRD to IRD interface capabilities are part of the Core module. Four functions are specified:

Export Function	Copies a user-specified set of entities and relationships from the IRD to an IRD export file. The file format conforms to ISO encoding standards ASN.1 8824 and 8825. A file containing the IRD schema which corresponds to the export file is also generated.
Import Function	Performs an IRD compatibility check on the IRD schema to be imported. Imports the exported IRD and schema.
Create an empty IRD and Import	
Check IRD-IRD compatibility	

IRDS: Command Language and Panel Interface

The IRDS Command Language and Panel Interface are used to maintain the IRD and the IRD schema. The Command Language Interface assumes the specified syntax and semantics are implemented. The Panel Interface assumes the specific semantics of commands but not the syntax are implemented. The commands control:

- Selection operations such as Set-session-defaults, Activate, Deactivate, and the procedure commands.
- Maintenance operations for Add, Delete, Modify, Copy.
- Reporting, impact analysis and syntax generation with output commands.

There are specified error codes and messages for the Commands and Panel Interfaces.

The following example illustrates the types of IRDS commands that would be used to define the physical characteristics of a CUSTOMER entity having a ZIP-CODE attribute.

```
add entity CIS-01092    entity type = "ELEMENT"
  with attributes
    description="5 digit ZIP CODE"
    external-security= "datamgr"
    data-class = "alphanumeric"
    identification-names =
      (alternate-name = "ZIP-CODE"
       alternate-name-context="conceptual"
       length = 5 ;
```

```
add entity CIS-010      entity type = "RECORD"
  with attributes
    description =      "A record containing customer name and
                        address information"
    date-time-modified = "19841500"
    modified-by = "R. MOLYBDENA"
    alternate-name = "customer"
    alternate-name-context = "conceptual"
```

To specify that the customer record contains the element ZIP-CODE:

```
add relationship CIS-010 CONTAINS CIS-010092
  with attributes relative position = 8 ;
```

There are three types of output commands: Output IRD, Output Impact of Change, and Output Syntax. The commands have the same overall structure, which is the command identification, entity selection criteria, and output format and destination criteria.

One may select all entities, select entities by *Access-Name*, by *Descriptive-Name*, or by a relationship to another entity. Condition tests may be specified to further qualify the selection. A show clause specifies which attributes of the entity are to be reported.

The Output Impact command allows selection of all entities, or a list of specific entities, impacted by a change to a designated entity. The impact reported is the list of entities participating in a direct relationship with the designated entity.

The Output Syntax command is a simplified version of the Output IRD command. Its output is a sequence of Begin Entity and Begin Relationship commands (instead of Add Entity and Add Relationship).

Requirements for IRDS compliance

ANSI Compliance

The first section of the ANS X3.138-1988 specifies the requirements for conformance to the standard, which is needed to fully support Module 1 with the Command Language Interface and/or the Panel Interface. Module 2 (The Basic Functional IRD Scheme) is an optional standard module that is dependent upon Module 1. Module 3 (IRDS Security) is an optional standard module that is dependent upon Module 1. Module 4 (Extensible Life Cycle Phase Facility) is an optional standard module that is dependent upon Module 1. Module 5 (Procedure Facility) is an optional standard module that is dependent upon Module 1. Module 5 requires the availability of the Command Language Interface. Module 6 (Application Program Interface) is an optional standard module that is dependent upon Module 1. Module 6 requires the availability of the Command Language Interface. Module 7 (Entity Lists) is the last optional standard module.

There are two operating modes for the standard IRDS: the Standard Mode where the IRDS performs as specified by the standard and the Extended Mode where the IRDS performs all functionality defined by correct syntax and semantics, as specified in the standard. That is any standard function must perform exactly in the extended mode as it performs in the standard form. Extensions only extend features and do not delete or modify standard features. The implementor may have extensions available to the user.

An implementation is in conformance if it operates in the standard mode. It is also conformant if it operates in the extended mode but it may be optionally restricted to the standard mode.

An implementation must not require substitution or additional language elements to accomplish a function identical to the standard IRDS language element for the implementation to be standard.

FIPS Compliance

To comply with the Federal Information Processing Standard (FIPS), there must be compliance with the ANS X3.138-1988, and module 2,

the Basic Functional Schema, must be implemented. The FIPS IRDS standard is published as FIPS publication 156 effective September 25, 1989.

CHAPTER 4

TECHNICAL COMPARISON

The IRDS Standard and the CDM system share similarities in approach, structure, language and features. Both utilize a 4-layer approach to data definition, both use an ER model to specify the schema model of the dictionary and the dictionary itself, both can be extended, both have a command language with functionally similar commands, both provide impact analysis.

However, the focus of the IRDS and the CDM is fundamentally different. Consequently, at a detailed level, that is attribute by attribute and relationship by relationship, a comparison of the two models reveals many more differences than similarities.

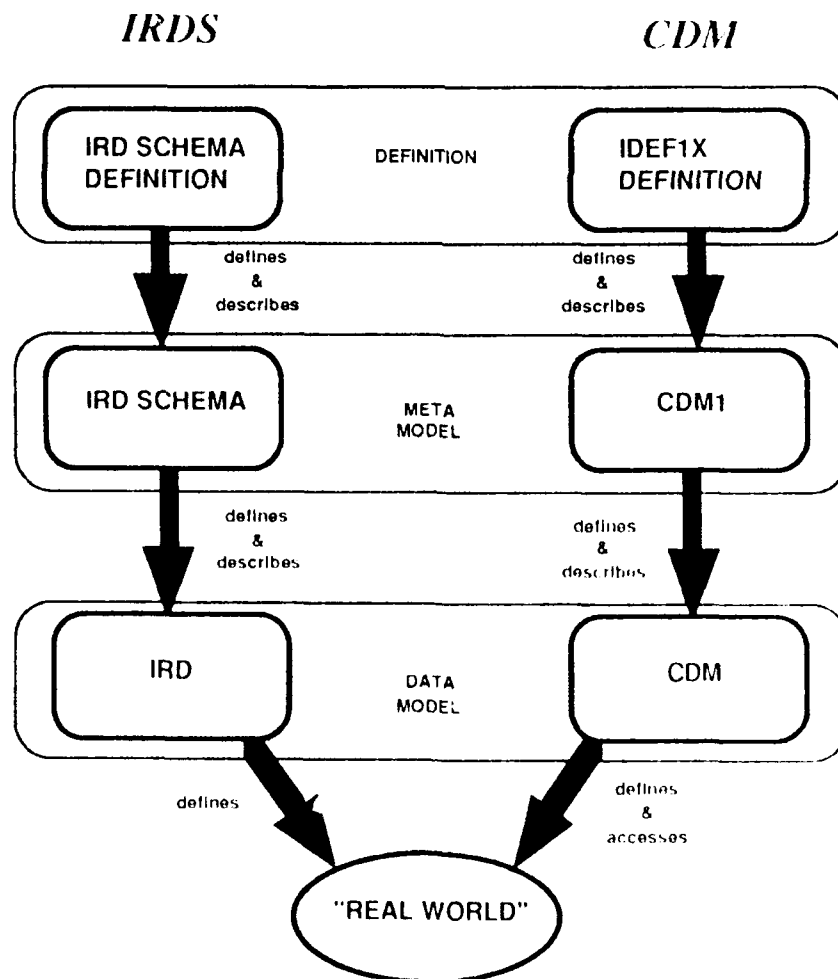


Figure 8: The CDM vs IRDS

The following tables summarize the high-level correspondence between the IRDS and the CDM.

IRDS / CDM Approach

Functionality	IRDS	CDM
Model Type	E-R	E-R
Relationships		
Relationship type	Binary	Binary
Many to many relationships	yes	no
Entity may relate to self	yes	no
Layers (Layers a, b, c, and d) are referenced later in this following tables		
a. Real World data	yes (layer 4)	yes (layer 4)
b. Meta Data	IRD (layer 3)	CDM dict (layer 3)
c. Meta Data	IRD schema(layer 2)	CDM1 (layer 2)
d. Definition	IRD def (layer 1)	IDEF1X (layer 1)
Attributes		
Describe entities	yes	yes
Describe relation	yes	no
Attribute groups	yes	no
Describe entity	yes	-
Describe relation	yes	-
Three schema data access	no real world data access	yes
Layer definitions		
	d describes c	d describes c
	c describes b	c describes b
	b describes a	b describes a
Layer control of data		
	d controls c	d controls c
	c controls b	c controls b
	b does not control a	b controls a

IRDS/CDM Data Definition Language

Functionality	IRDS	CDM
Definition language		
Commands	yes	yes
Panels	yes	no
Forms	no	yes
defines layers	b & c	b and c
Dictionary access commands for layers	b & c	b and c
Dictionary reporting commands for layers	b & c	b and c

IRDS/CDM Features

Functionality	IRDS	CDM
Entity lists	optional	no
Application pgm Interface to dict	optional	yes through IVLML
Procedure facility	optional	no
Life Cycle Facility	yes layer c optional layer b	no
Security	optional	yes
Definition of real world data		
databases	yes	yes
files	yes	no
programs	yes	limited automatic
documents	yes	no
users	yes	limited automatic
User views		
to layer a	no	yes
to layer b	yes	no
to layer c	yes	no
Referential Integrity of real world data	no	yes
Reporting		
Impact Analysis	yes	yes
Dictionary compare	yes	yes
Export/Import of portions of dict.	yes	yes
Naming		
Unique primary names	yes	yes
Alternate Names	yes	yes
Full Text Definitions	yes	yes

CHAPTER 5

POTENTIAL CDM/IRDS

There is a large opportunity for usability if the features of the CDM and the IRDS are integrated. The IRDS is a standard which addresses many of today's data description problems. The CDM is a demonstrated product for accessing and controlling data in a distributed and heterogeneous environment. The IRDS brings strength in the areas of configuration management, dictionary interchanges, security, and extensibility. The CDM brings strength in the areas of access to data, mapping, program usage, and data integrity. A standard and/or a product which incorporates features of the CDM and IRDS would be very powerful.

The proposed direction for involvement of integrating the CDM and the IRDS standard is a two-pronged effort: 1) Implement the IRDS within the CDM and 2) Extend the IRDS standard with certain CDM features. The implementation of the IRDS within the CDM would be a major effort because the IRDS specifies a model, a command language, a panel interface, error codes and messages, and a soon to be released services interface for application access to the IRD and IRD schema. The second effort of extending the IRDS standard with the CDM capabilities is currently underway within the X3H4 IRDS Committee in the Distributed Heterogeneous Task Group, in which Control Data is a proactive participant.

The implementation of the IRDS modules 1 and 2 within the CDM would entail the following major steps:

- Defining the IRDS model in IDEF1X form.
- Merging the IRDS IDEF1X model and the CDM1 IDEF1X model.
- Extending the CDM1 NDDL with the IRDS model.
- Extending the NDDL commands and utilities with IRDS commands.
- Providing an IRDS services interface to the CDM.

None of these are trivial tasks. Until all five enhancements are added, the full power of the IRDS extensibility could not be realized. However, with these enhancements the addition of the other optional modules of the IRDS could be undertaken.

The CDM could then use the Import/Export commands to exchange IRD and IRD Schema data with other IRDS implementations. This would open the possibility of merging dictionaries from many sources previously inaccessible to the CDM. To fully access information described by other dictionaries, the CDM extensions must be populated.

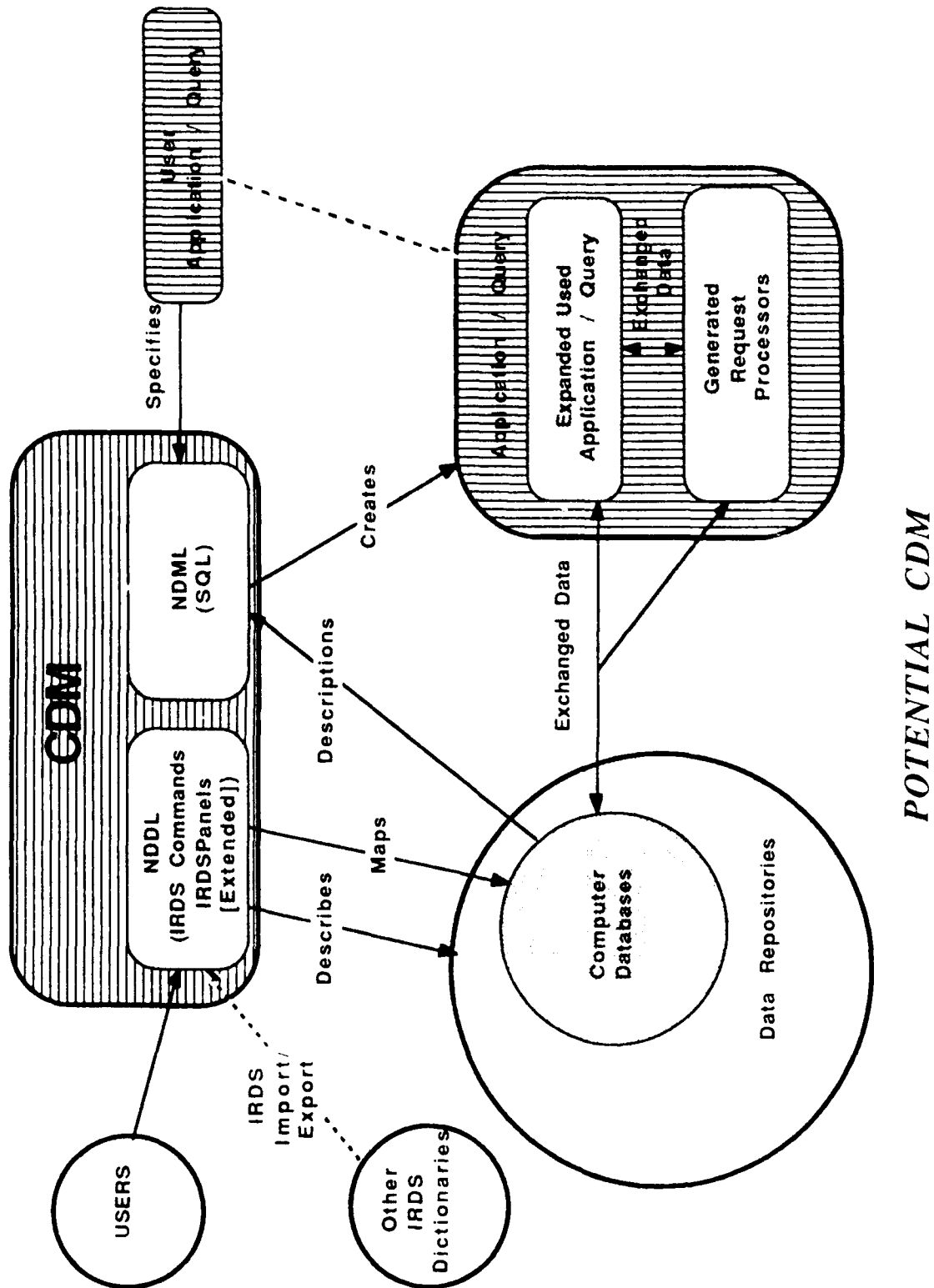


Figure 9: The Potential CDM

Extending the IRDS with CDM concepts can be accomplished through the Distributed Heterogeneous Task Group of the X3H4 IRDS Committee. The major areas to be addressed are:

- Three schema approach as defined by SPARC.
- Mappings between the schemas (External to Conceptual, Conceptual to Internal).
- Usages of data by the various program modules and mappings.
- Integrity specifications that are enforced to insure that neither the dictionary nor the data are corrupted during access.
- Distributed environment specifications.
- Heterogeneous environment specifications.

Work on these efforts would require bringing knowledge of the CDM and lessons learned in the CDM implementation to the IRDS committee. Expertise in the distributed heterogeneous area is extremely limited. Our participation in the area of standards has been requested by the IRDS task group for the distributed heterogeneous environment. Effective involvement with the task group would require a long term commitment to the IRDS and many days of work between meetings preparing papers and supporting material which would result in a supplementary standard to the IRDS. Integrating CDM features into the IRDS will require that Control Data be the primary author developing the support material, as well as providing technical assistance to the committee. The task is not trivial and would require a full-time effort.

Combining the CDM and IRDS would be a benefit to industries which are integrating their operational environments. The IRDS brings the extensibility necessary to describe all aspects of data and the CDM brings the ability to assimilate the information and business rules associated with the enterprise into a single coordinated and consistent whole.

APPENDIX A

GLOSSARY, DEFINITIONS AND INFORMATION

The following glossary, definitions, and information is included as a reference for the reader interested in the IRDS and related standards activities, as well as information integration in general.

ANS.1	Abstract Syntax Notation One standards (ISO 8824 & 8825) (Note. Actual title is French)
ANSI	American National Standards Institute
API	Application Program Interface
ASCII	American Standard Code for Information Interchange.
CBEMA	Computer and Business Equipment Manufacturers Association. Functions as the ANSI X3 Secretariat.
CDM	Common Data Model
CDMA	Common Data Model Administrator. The individual(s) responsible for building and maintaining the CDM data dictionary.
CDM*plus	An information integration product from Control Data Corporation.
IEC	International Electro-Technical Committee
IRDS	Information Resource Dictionary System. An ANSI Data Dictionary Standard. The IRDS issue is also being worked at the ISO level to develop an international data dictionary standard, and IBM has
ISO	International Standards Organization
JTAP	Joint Technical Applications Portability Group
JTC	Joint Technical Committee
NBS	National Bureau of Standards (Now renamed NIST)
NIST	National Institute for Standards and Technology (Formerly NBS)
ODP	Open Distributed Processing
OSF	Open Software Foundation
TAG	Technical Advisory Group

TSG	ISO Technical Sub-Group (International)
X3	A standards developing committee accredited by ANSI, est. 1961.
X3H2	The ANSI X3 Database Technical Committee
X3H4	The ANSI X3 Information Resource and Dictionary Technical Committee
X3T2	The ANSI X3 Data Interchange Technical Committee
X3T3	The ANSI X3 Open Distributed Processing Technical Committee
X3T5	The ANSI X3 Open Systems Interconnection (OSI) Technical Committee
UI	User Interface
UI-Plus	An information integration produce from Structural Dynamics Research Corporation.
ES	External Schema. Defines the external or "user" view of the enterprise data.
CS	Conceptual Schema. Defines a non-ambiguous model, usually an entity-relationship (E-R) model, of the Enterprise data. With appropriate mappings, functions as a neutral translator between the external schema (user view) and the internal schema (physical view).
IS	Internal Schema. Defines the internal or "physical" view.
NTM	Network Transaction Manager. Manages data movement between distributed processes in heterogeneous systems.
IDEF	ICAM Definition modeling technique. An Entity Relationship (E-R) modeling technique allowing functional modeling (IDEFO), E-R information modeling (IDEF1X), and other problem-class modeling (e.g. time-dependency, IDEF2). There is currently considerable activity in the IDEF community via the IDEF Users Group. Information may be obtained through the Integration Technology Division at AFRL/AFM, AFM, Hanscom AFB, MA 01930-513/255-6976.
ICAM	An Air-Force program for Integrated Computer Aided Manufacturing funded by the Manufacturing Technology Directorate, Integration Technology Division. (Formerly the Manufacturing Technology Division of the AF Materials Laboratory, Computer Integrated Manufacturing (CIM) Branch), 1982-1987. The ICAM program was responsible for the

development of IDEF and initiated the technologies and three-schema architecture which was picked up by the Integrated Information Support System (IISS) and led to the initial development of the Common Data Model. The technology has since evolved and been extended into the CDM*plus product (CDC) and the DMCS and UI-Plus products (SDRC).

APPENDIX B

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Note:

A copy of the ANSI IRDS may be obtained through:

Global Engineering Documents
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APPENDIX C

IRDS COMMAND LANGUAGE

This appendix outlines the IRDS commands and clauses. The reference to "Mod x,y,...y" notes that this command or clause is specified in module x of the IRDS standard and is extended in modules y. The descriptions for each of the outline components uses the following terminology:

- "SAME" which implies a good relationship between the CDM & IRDS
- "SIMILAR" which implies that the IRDS does not have many of the features of the item.
- "DIFFERENT" which implies that there is not any correspondence for the CDM item in the IRDS

Each command and clause is annotated with the correspondence to the CDM command in appendix E.

Points of Comparison	Same	Similar	Different
468	48	61	359

1. IRD-Schema-command

1.1. IRD-Schema-maintenance-command

The CDM uses one language for the CDM and CDM1 since there is not a difference in the structure.

1.1.1. Activate-IRD-command (Mod 1,3,4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

1.1.2. Add-IRD-schema-structure-command (Mod 4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL. This is part of the Configuration management in the CDM

1.1.2.1. append-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.2. first-default-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.3. include-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.4. line-number-increment-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.5. members-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.6. meta-entity-descriptive-name-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.7. new-meta-attribute-group-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.8. new-meta-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.9. new-repeating-meta-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.10. new-text-meta-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.2.11. second-default-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.2.12. start-line-number-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.2.13. subsets-clause (Mod 4)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3. Add-meta-entity-command (Mod 1,3,4)
SAME: This command compares to the CDM NDDL command:
Create-entity (2.1.4)
- 1.1.3.1. first-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3.2. line-number-increment-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3.3. meta-entity-descriptive-name-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3.4. meta-entity-type-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3.5. new-meta-attribute-group-clause (Mod 1)
SAME: This clause compares to the CDM NDDL clause:
Owned-attribute (2.1.4.3)
- 1.1.3.6. new-meta-attributes-clauses (Mod 1)
SAME: This clause compares to the CDM NDDL clause:
Owned-attribute (2.1.4.3)
- 1.1.3.7. new-repeating-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3.8. new-text-meta-attribute-clause (Mod 1)
SIMILAR: This clause is similar to to the CDM NDDL clause: Entity of the Describe command.
- 1.1.3.9. second-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.3.10. simple-meta-attribute-clause (Mod 1)
SAME: This clause compares to the CDM NDDL clause:
Owned-attribute (2.1.4.3)
- 1.1.3.11. start-line-number-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4. Add-meta-relationship-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command: Create-relation (2.1.6)

1.1.4.1. first-default-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4.2. line-number-increment-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4.3. new-meta-attribute-group-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4.4. new-meta-attributes-clause (Mod 1)

SIMILAR: This clause is similar to to the discriminator for the category relation.

1.1.4.5. new-repeating-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4.6. new-text-meta-attribute-clause (Mod 1)

SIMILAR: This clause is similar to to the CDM NDDL clause : Relation (1.2.2.1.2) of command Describe

1.1.4.7. second-default-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4.8. simple-meta-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.4.9. start-line-number-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.5. Copy-IRD schema definition command (Mod 4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

1.1.5.1. meta-entity-descriptive-name-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.5.2. new-meta-entity-version-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.6. Copy-meta-entity-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command:
Copy-entity (1.4.8)

1.1.6.1. meta-entity-descriptive-name-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.6.2. new-meta-entity-version-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.6.3. with-meta-relationship-clause (Mod 1)

SAME: This clause compares to the CDM NDDL clause:
Relation (1.4.8.1)

1.1.7. Deactivate-IRD-command (Mod 1,3,4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

1.1.8. Delete-IRD-schema-structure-command (Mod 4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

1.1.9. Delete-meta-entity-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command:
Drop-entity (2.2.10)

1.1.9.1. with-meta-relationship-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.10. Delete-meta-relationship-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command:
Drop-relation (2.2.13)

1.1.11. Install-IRD-structure-command (Mod 4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

1.1.12. Modify-IRD-schema-structure-command (Mod 4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

1.1.12.1. append-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.12.2. disconnect-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.12.3. exclude-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.12.4. first-default-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.5. include-clause (Mod 4)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.6. line-number-increment-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.7. line-range-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.8. members-clause (Mod 4)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.9. meta-entity-descriptive-name-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.10. modified-meta-attribute-group-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.11. modified-meta-attributes-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.12. modified-repeating-meta-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.13. modified-text-meta-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.14. new-meta-entity-relationship-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.15. second-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.16. simple-meta-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.17. start-line-number-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.12.18. subsets-clause (Mod 4)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.12.19. text-meta-attribute-resequence-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.13. Modify-meta-entity access-name-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL clause:

Entity of the Rename command (1.2.2.4)

1.1.14. Modify-meta-entity-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command:

Alter-entity (2.2.4)

1.1.14.1. first-default-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.2. line-number-increment-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.3. line-range-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.4. meta-entity-descriptive-name-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.5. meta-entity-type-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.6. modified-meta-attribute-group-clause (Mod 1)

SAME: This clause compares to the CDM NDDL clause:

Add-owned-attribute (2.2.4.1)

1.1.14.7. modified-meta-attributes-clauses (Mod 1)

SAME: This clause compares to the CDM NDDL clause:

Add-owned-attribute (2.2.4.1)

1.1.14.8. modified-repeating-meta-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.9. modified-text-meta-attribute-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.10. new-meta-entity-version clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

1.1.14.11. second-default-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.14.12. simple-meta-attribute-clause (Mod 1)
SAME: This clause compares to the CDM NDDL clauses: Add-owned-attribute (2.2.4.1), add/drop/alter (2.2.4.2), attribute (2.2.4.3), & drop-owned-attribute (2.2.4.4)
- 1.1.14.13. start-line-number-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.14.14. text-meta-attribute-resequence-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.15. Modify-meta-entity-descriptive-name-command (Mod 1,3,4)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 1.1.16. Modify-meta-entity-life-cycle-phase-command (Mod 1,3,4)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 1.1.17. Modify-meta-relationship-command (Mod 1,3,4)
SAME: This command compares to the CDM NDDL command. Alter-relation (2.2.6)
- 1.1.17.1. first-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.2. line-number-increment-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.3. line-range-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.4. modified-meta-attribute-group-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.5. modified-meta-attributes-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.6. modified-repeating-meta-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.7. modified-text-meta-attribute-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.8. second-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.9. simple-meta-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.10. start-line-number-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.17.11. text-meta-attribute-resequence-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.1.18. Restore-IRD-schema-command (Mod 1,3,4)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 1.2. IRD-Schema-output-command
- 1.2.1. IRD-schema-output-command (Mod 1,4)
SIMILAR: This is similar to the reports modules of the CDM
- 1.2.1.1. IRD-schema-life-cycle-phase-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.2. IRD-schema-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.3. IRD-schema-show-all-clause (Mod 1)
SIMILAR: This clause is similar to to the CDM NDDL report:
- 1.2.1.4. line-range-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.5. meta-attribute-group-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.6. meta-attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.7. meta-entity-selection-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

- 1.2.1.8. meta-entity-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.9. meta-entity-type-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.10. meta-relationship-existence-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.11. meta-relationship-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.12. route-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.13. show-IRD-schema-life-cycle-phase-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.14. show-meta-attributes-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report.
- 1.2.1.15. show-meta-relationships-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report.
- 1.2.1.16. show-related-meta-entities-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report.
- 1.2.1.17. show-titles-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 1.2.1.18. sort-meta-entities-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL report.
- 1.2.1.19. using-IRD-schema-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2. IRD-command

2.1. IRD-maintenance-command

2.1.1. Add-access-key-command (Mod 3)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

2.1.1.1. controller-list-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.2. entity-selection-criteria-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.3. for-all-controllers-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.4. for-controllers-in-clause (Mod 3,7)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.5. IRD-views-in-clause (Mod 3,7)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.6. IRD-views-list-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.7. using-IRD-views-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.1.8. using-list-clause (Mod 7)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.2. Add-entity-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command:
Create-entity (2.1.4)

2.1.2.1. entity-descriptive-name-declaration-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.2.2. entity-type-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.2.3. first-default-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.2.4. line-number-increment-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.2.5. new-entity-attributes-clause (Mod 1)
SAME: This clause compares to the CDM NDDL command/clause: Create-entity (2.1.4)
- 2.1.2.6. new-repeating-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.2.7. new-repeating-attribute-group-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.2.8. new-simple-attribute-group-clause (Mod 1)
SAME: This clause compares to the CDM NDDL command/clause: Create-entity (2.1.4)
- 2.1.2.9. new-text-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.2.10. quality-indicator-designation-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.2.11. second-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.2.12. simple-attribute-clause (Mod 1)
SAME: This clause compares to the CDM NDDL command/clause: Create-entity (2.1.4)
- 2.1.2.13. start-line-number-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.3. Add-relationship-command (Mod 1,3,4)
SAME: This command compares to the CDM NDDL command: Create-relation (2.1.6)
- 2.1.3.1. new-relationship-attributes-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL clause: Discriminator in Create-category
- 2.1.3.2. new-relationship-identification-clause (Mod 1)
SIMILAR: Note, the CDM can not enter a relationship if the entities are not defined for the relationship
- 2.1.3.3. order-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.3.4. simple-attribute-clause (Mod 1)

SIMILAR: This clause is similar to the CDM NDDL clause. Discriminator in Create-category

2.1.4. Add-security-command (Mod 3)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

2.1.4.1. controller-list-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.4.2. entities-in-clause (Mod 3,7)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.5. Copy-entity-command (Mod 1,3,4)

SAME: This command compares to the CDM NDDL command: Copy-entity (1.4.8)

2.1.5.1. entity-descriptive-name-declaration-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.5.2. new-version-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.5.3. quality-indicator-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.5.4. with-relationship-clause (Mod 1,3)

SAME: This clause compares to the CDM NDDL command/clause: Copy-entity relation (1.4.8.1)

2.1.6. Delete-access-key-command (Mod 3)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

2.1.6.1. controller-list-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.6.2. entity-selection-criteria-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.6.3. for-all-controllers-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.6.4. for-controllers-in-clause (Mod 3)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

2.1.6.5. IRD-views-in-clause (Mod 3,7)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.6.6. IRD-views-list-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.6.7. using-IRD-views-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.6.8. using-list-clause (Mod 7)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7. Delete-entity-command (Mod 1,3,4,7)
SAME: This command compares to the CDM NDDL command:
Drop-entity (2.2.10)
- 2.1.7.1. all-entities-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.2. alternate-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.3. attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.4. audit-attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.5. entity-access-name-selection-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.6. entity-assigned-access-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.7. entity-assigned-descriptive-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.8. entity-descriptive-name-selection-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.9. entity-selection-criteria-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

- 2.1.7.10. entity-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.11. entity-type-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.12. IRD-life-cycle-phase-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.13. IRDS-function-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.14. order-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.15. qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.16. quality-indicator-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.17. related-entities-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.18. relationship-existence-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.19. relationship-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.20. restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.21. revision-number-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.22. text-attribute-substring-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.23. using-list-clause (Mod 1,7)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.24. variation-name-restriction-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.7.25. with-relationships-clause (Mod 1,3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8. Delete-relationship-command (Mod 1,3,4)
SAME: This command compares to the CDM NDDL command:
Drop-relation (2.2.13)
- 2.1.8.1. attribute-group-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.2. attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.3. IRDS-function-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.4. order-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.5. relationship-identification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.6. relationship-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.7. relationship-selection-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.8. relationship-type-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.9. text-attribute-substring-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.8.10. using-list-clause (Mod 7)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.9. Delete-security-command (Mod 3)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 2.1.9.1. entities-in-clause (Mod 3,7)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.9.2. entity-selection-criteria-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.9.3. related-controllers-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.9.4. using-IRD-views-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.10. Modify-entity-access-name-command (Mod 1,3,4)
SAME: This command compares to the CDM NDDL clause:
key of the Alter-entity command (2.2.4.5)
- 2.1.11. Modify-entity-command (Mod 1,3,4)
SAME: This command compares to the CDM NDDL command:
Alter-entity (2.2.4)
- 2.1.11.1. entity-descriptive-name-declaration-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.2. entity-type-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.3. first-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.4. line-number-increment-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.5. line-range-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.6. modified-entity-attributes-clause (Mod 1)
SAME: This clause compares to the CDM NDDL
command/clause: Alter-entity (2.2.4)
- 2.1.11.7. modified-repeating-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.8. modified-repeating-attribute-group-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.11.9. modified-simple-attribute-group-clause (Mod 1)

- 2.1.10.3.1.1 This clause compares to the CDM NDDL
command: Alter-entity (2.2.4)
- 2.1.10.3.1.2 Added text attribute-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.10.3.1.3 Version-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.10.3.1.4 Indicator-designation-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.10.3.1.5 Default-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.10.3.1.6 Attribute-clause (Mod 1)
COMMENT: This clause compares to the CDM NDDL
command: Alter-entity (2.2.4)
- 2.1.10.3.1.7 Sequence number-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.10.3.1.8 Attribute-resequence-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.12.3.1 Entity descriptive-name-command (Mod 1,3,4)
COMMENT: This command does not have a correspondence
to the CDM NDDL.
- 2.1.12.3.2 Life cycle-phase-command (Mod 1,3,4)
COMMENT: This command does not have a correspondence
to the CDM NDDL.
- 2.1.12.3.3 Relationship command (Mod 1,3,4)
COMMENT: This command compares to the CDM NDDL command:
Relationship (2.2.6)
- 2.1.12.3.4 Increment-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.12.3.5 Decrement-clause (Mod 1)
COMMENT: This clause does not have a correspondence
to the CDM NDDL.
- 2.1.12.3.6 Word or order-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.5. modified-relationship-attributes-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.6. modified-repeating-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.7. modified-repeating-attribute-group-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.8. modified-simple-attribute-group-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.9. modified-text-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.10. new-sequence-attribute-or-order-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.11. order-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.12. relationship-identification-clause (Mod 1)
SAME: This clause compares to the CDM NDDL command/clause: Alter-relation add/drop (2.2.6.1)
- 2.1.14.13. second-default-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.14. simple-attribute-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.15. start-line-number-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.14.16. text-attribute-resequence-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.15. Modify-security-command (Mod 3)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 2.1.15.1. entities-in-clause (Mod 3.7)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.15.2. entity-selection-criteria-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.15.3. from-controller-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.1.15.4. using-IRD-views-clause (Mod 3)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2. IRD-output-command
- 2.2.1. General output-command (Mod 1,4,7)
SAME: This command is similar to the set of CDM reports
- 2.2.1.1. all-entities-clause (Mod 1)
SAME: This clause compares to the CDM NDDL parameter: 'All' in the reports
- 2.2.1.2. alternate-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.3. attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.4. audit-attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.5. entity-access-name-selection-clause (Mod 1)
SAME: This clause compares to the CDM NDDL parameter: Entities in the model contents report (6.5.1.1.2)
- 2.2.1.6. entity-assigned-access-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.7. entity-assigned-descriptive-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.8. entity-descriptive-name-selection-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.9. entity-selection-criteria-clause (Mod 1)

SIMILAR: This clause is similar to the CDM NDDL
parameter: Entity in the CDM reports.

- 2.2.1.10. entity-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.11. entity-type-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.12. implementor-defined-clauses (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.13. IRD-life-cycle-phase-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.14. IRDS-function-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.15. line-range-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.16. order-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.17. qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.18. qualified-show-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL
parameter lists of the CDM reports.
- 2.2.1.19. quality-indicator-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.20. related-entities-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.21. relation-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.22. relationship-existence-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence
with the CDM NDDL.
- 2.2.1.23. relationship-type-qualification-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.24. restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.25. revision-number-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.26. route-clause (Mod 1)
SAME: This clause compares to the CDM NDDL parameter: Output-file in all reports report
- 2.2.1.27. show-all-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.28. show-attributes-clause (Mod 1)
SAME: This clause compares to the CDM NDDL reports: Attribute-where-used (6.5.1.4) & Attributes-not-used (6.5.1.11)
- 2.2.1.29. show-counts-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.30. show-entities-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report: Entity-contents (6.5.1.6)
- 2.2.1.31. show-entity-access-name-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report: Conceptual-schema-key (6.5.1.2)
- 2.2.1.32. show-entity-descriptive-name-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.33. show-entity-type-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.34. show-IRD-life-cycle-phase-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.35. show-life-cycle-phase-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.36. show-predefined-display-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.37. show-quality-indicator-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.38. show-relationship-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report: Relations (6.5.1.8)
- 2.2.1.39. show-relationship-syntax-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.40. show-relationships-clause (Mod 1)
SAME: This clause compares to the CDM NDDL report: Relations (6.5.1.8)
- 2.2.1.41. show-title-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.42. sort-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.43. text-attribute-substring-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.44. using-IRD-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.45. using-list-clause (Mod 1,7)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.1.46. variation-name-restriction-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL report: Alias Report
- 2.2.2. Output-impact-of-Change-command (Mod 1,4,7)
SAME: This command compares to the CDM NDDL utility: Impact analysis (6.2)
- 2.2.2.1. all-entities-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.2. alternate-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.3. attribute-group-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.4. attribute-restriction-clause (Mod 1)

- DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.5. audit-attribute-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.6. entity-access-name-selection-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.7. entity-designated-access-name-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.8. entity-designated-descriptive-name-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.9. entity-descriptive-name-selection-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.10. entity-selection-criteria-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.11. entity-type-qualification-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.12. entity-type-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.13. entity-type-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.14. named-entity-show-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.15. named-restricted-clauses (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.16. named-type-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.
- 2.2.2.17. named-type-restriction-clause (Mod 1)
DIFFERENT. This clause does not have a correspondence with the GDM NDDL.

- 2.2.2.18. order-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.19. qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.20. qualified-impacted-entity-show-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.21. quality-indicator-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.22. related-entities-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.23. relationship-existence-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.24. relationship-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.25. restriction-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL parameter for Impact-analysis.
- 2.2.2.26. revision-number-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.27. route-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.28. show-attributed-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.29. show-entity-descriptive-name-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.30. show-IRD-life-cycle-phase-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.31. show-quality-indicator-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.32. show-title-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.33. sort-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.34. text-attribute-substring-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.35. using-IRD-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.36. using-list-clause (Mod 1,7)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.2.37. variation-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3. Output-syntax-command (Mod 1,4,7)
SAME: This command compares to the CDM NDDL commands: Copy-attribute (1.4.2), Copy-database (1.4.3), Copy-DBMS (1.4.4), Copy-description (1.4.5), Copy-description-type (1.4.6), Copy-domain (1.4.7), Copy-entity (1.4.8), Copy-model (1.4.11), Copy-module (1.4.12), Copy-record (1.4.13), Copy-set (1.4.14), Copy-view (1.4.15)
- 2.2.3.1. all-entities-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL command: Copy-entity (1.4.8)
- 2.2.3.2. alternate-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.3. attribute-group-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.4. attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.5. audit-attribute-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.6. entity-access-name-selection-clause (Mod 1)
SAME: This command compares to the CDM NDDL commands: Copy-entity (1.4.8).

- 2.2.3.7. entity-assigned-access-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.8. entity-assigned-descriptive-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.9. entity-descriptive-name-selection-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.10. entity-selection-criteria-clause (Mod 1)
SIMILAR: This clause is similar to the CDM NDDL command: Copy-entity (1.4.8)
- 2.2.3.11. entity-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.12. entity-type-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.13. implementor-defined-clauses (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.14. IRD-life-cycle-phase-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.15. IRDS-function-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.16. order-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.17. qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.18. quality-indicator-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.19. related-entities-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.20. relationship-existence-restriction-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.21. relationship-type-qualification-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.22. restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.23. revision-number-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.24. route-clause (Mod 1)
SAME: This clause compares to the CDM NDDL parameter on all reports :Output-file
- 2.2.3.25. show-IRD-life-cycle-phase-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.26. show-relationship-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.27. show-relationship-syntax-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.28. show-title-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.29. sort-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.30. text-attribute-substring-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.31. using-IRD-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.32. using-list-clause (Mod 1,7)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 2.2.3.33. variation-name-restriction-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3. General-command

3.1. IRD-IRD-interface-command

3.1.1. Check-IRD-schema-compatibility-command (Mod 1,4)

SAME: This command compares to the CDM NDDL command:
Compare-model (1.3.2)

3.1.1.1. implementor-defined-clauses (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3.1.1.2. in-file-clause (Mod 1)

SIMILAR: This clause is similar to the CDM NDDL parameters in the Compare-model (1.3.2)

3.1.1.3. in-IRD-clause (Mod 1)

SIMILAR: This clause is similar to the CDM NDDL parameters in the Compare-model (1.3.2)

3.1.1.4. other-IRD-schema-clause (Mod 1)

SIMILAR: This clause is similar to the CDM NDDL parameters in the Compare-model (1.3.2)

3.1.2. Create-IRD-command (Mod 1,4)

SAME: This command compares to the CDM NDDL utility:
Build-CDM (6.1)

3.1.2.1. implementor-defined-clauses (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3.1.2.2. in-file-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3.1.2.3. in-IRD-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3.1.2.4. IRD-schema-source-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3.1.2.5. load-IRD-clause (Mod 1)

SIMILAR: This clause is similar to the CDM NDDL parameters in the Build CDM utility

3.1.2.6. location-clause (Mod 1)

DIFFERENT: This clause does not have a correspondence with the CDM NDDL.

3.1.3. Export-IRD-command (Mod 1,4)

DIFFERENT: This command does not have a correspondence with the CDM NDDL.

3.1.3.1. exclude-relationship-of-type-clause (Mod 1)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.2. file-title-suffix-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.3. implementor-defined-clauses (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.4. IRD-export-file-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.5. IRD-schema-export-file-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.6. location-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.7. using-IRD-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.3.8. using-list-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.4. Import-IRD-command (Mod 1,4)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 3.1.4.1. implementor-defined-clauses (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.4.2. IRD-export-file-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.4.3. IRD-life-cycle-phase-designation-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.4.4. IRD-schema-export-file-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.1.4.5. location-clause
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2. Utility-command
- 3.2.1. Build-entity-list-command (Mod 7)

SIMILAR: This is similar to the function of CDM NDML commands (6.5)

- 3.2.1.1. all-entities-clause (Mod 1)
- 3.2.1.2. alternate-name-restriction-clause (Mod 1)
- 3.2.1.3. attribute-group-restriction-clause (Mod 1)
- 3.2.1.4. attribute-restriction-clause (Mod 1)
- 3.2.1.5. audit-attribute-restriction-clause (Mod 1)
- 3.2.1.6. entity-access-name-selection-clause (Mod 1)
- 3.2.1.7. entity-assigned-access-name-restriction-clause (Mod 1)
- 3.2.1.8. entity-assigned-descriptive-name-restriction-clause (Mod 1)
- 3.2.1.9. entity-descriptive-name-clause (Mod 1)
- 3.2.1.10. entity-selection-criteria-clause (Mod 1)
- 3.2.1.11. entity-type-qualification-clause (Mod 1)
- 3.2.1.12. entity-type-restriction-clause (Mod 1)
- 3.2.1.13. implementor-defined-clauses (Mod 1)
- 3.2.1.14. IRD-life-cycle-phase-restriction-clause (Mod 1)
- 3.2.1.15. IRDS-function-restriction-clause (Mod 1)
- 3.2.1.16. list-name-clause (Mod 7)
- 3.2.1.17. order-restriction-clause (Mod 1)
- 3.2.1.18. qualification-clause (Mod 1)
- 3.2.1.19. quality-indicator-restriction-clause (Mod 1)
- 3.2.1.20. related-entities-clause (Mod 1)
- 3.2.1.21. relationship-existence-restriction-clause (Mod 1)
- 3.2.1.22. relationship-type-qualification-clause (Mod 1)
- 3.2.1.23. restriction-clause (Mod 1)
- 3.2.1.24. revision-number-restriction-clause (Mod 1)
- 3.2.1.25. text-attribute-substring-restriction-clause (Mod 1)
- 3.2.1.26. using-IRD-views-clause (Mod 1)
- 3.2.1.27. using-list-clause (Mod 7)
- 3.2.1.28. variation-name-restriction-clause (Mod 1)
- 3.2.2. Enter-panel-dialog-command (Mod 1,4)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.3. Entity-list-difference-command (Mod 7)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.4. Entity-list-intersection-command (Mod 7)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.5. Entity-list-subtraction-command (Mod 7)

- SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.6. Entity-list-union-command (Mod 7)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.7. Exit-IRDS-System-command (Mod 1,4)
SIMILAR: This is similar to the CDM command Halt (1.1.2)
- 3.2.8. Help-command (Mod 1,4)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.9. Name-current-entity-list-command (Mod 7)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.10. Output-entity-list-command (Mod 7)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.10.1. list-name-clause (Mod 7)
- 3.2.10.2. show-title-clause (Mod 1)
- 3.2.10.3. route-clause (Mod 1)
- 3.2.11. Output-entity-list-names-command (Mod 7)
SIMILAR: This is similar to the function of CDM NDML commands (6.5)
- 3.2.11.1. show-title-clause (Mod 1)
- 3.2.11.2. route-clause (Mod 1)
- 3.2.12. Procedure language commands (functions)
DIFFERENT: These commands do not have a correspondence with the CDM NDDL.
- 3.2.12.1. Arg-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.2. Arg-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.3. Assignment-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.4. Case-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.5. Compare-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.6. Date-function (Mod 5)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.7. Do-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.8. If-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.9. Len-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.10. Max-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.11. Min-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.12. Nop-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.13. Operator (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.14. Procedure-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.15. Procedure-language-expression (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.16. Procedure-language-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.17. Procedure-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.18. Return-statement (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.19. Substr-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.20. Term (Mod 5)

- DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.21. Time-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.12.22. View-function (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.13. Run-IRDS-procedure-command (Mod 5)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 3.2.13.1. passing-arguments-clause (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.13.2. return-on-error-clause (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.13.3. show-IRDS-commands-clause (Mod 5)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.13.4. using-IRD-schema-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.13.5. using-IRD-views-clause (Mod 1)
DIFFERENT: This clause does not have a correspondence with the CDM NDDL.
- 3.2.14. Session-status-command (Mod 1,4)
DIFFERENT: This command does not have a correspondence with the CDM NDDL.
- 3.2.15. Set-session-defaults-command (Mod 1,4)
SIMILAR: This is similar to the CDM session control commands (1.1)

APPENDIX D

IRDS PANELS

This appendix outlines the IRDS panel interface structure with references to the correspondence to the CDM commands. The references to "Mod x,y,...y" denotes that the panel is originally defined in module x of the IRDS standard and extended in modules y of the standard. The descriptions for each of the outline components uses the following terminology:

- "SAME" which implies a good relationship between the CDM & IRDS
- "SIMILAR" which implies that the IRDS does not have many of the features of the item.
- "DIFFERENT" which implies that there is not any correspondence for the CDM item in the IRDS

Points of Comparison	Same	Similar	Different
53	0	0	53

1.1. IRD entity-list panel trees

1.1.1. Build entity-list-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.2. Entity-list-difference-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.3. Entity-list-intersection-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.4. Entity-list-subtraction-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.5. Entity-list-union-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.6. Name-current-entity-list-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.7. Output-entity-list-names-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.1.8. Output-entity-list-panel-tree (Mod 7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2. IRD maintenance panel tree

1.2.1. Add-entity-panel-tree (mod 1,3,5)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.2. Add-relationship-panel-tree (mod 1,5)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.3. Copy-entity-panel-tree (mod 1,3,5)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.4. Delete entity-panel-tree (mod 1,5,7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.5. Delete-relationship-panel-tree (mod 1,5,7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.6. Modify-entity-access-name-panel-tree (mod 1,5)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.7. Modify-entity-descriptive-name-panel-tree (mod 1,5)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.8. Modify-entity-life-cycle-name-panel-tree (mod 1,3,5,7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.9. Modify-entity-panel-tree (mod 1,3,5,7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.2.10. Modify-relationship-panel-tree (mod 1,5)

DIFFERENT: This does not correspond to a feature in the CDM.

1.3. IRD output panel trees

1.3.1. General-output-panel-tree (mod 1,5,7)

DIFFERENT: This does not correspond to a feature in the CDM.

1.3.2. Inquire-entity-panel-tree (mod 1,5)

DIFFERENT: This does not correspond to a feature in the CDM.

- 1.3.3. Inquire-relationship-panel-tree (mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
- 1.3.4. Output-impact-of-change-panel-tree (mod 1,5,7)
DIFFERENT: This does not correspond to a feature in the CDM.
- 1.3.5. Output-syntax-panel-tree (mod 1,5,7)
DIFFERENT: This does not correspond to a feature in the CDM.
- 1.4. IRD security panel trees
 - 1.4.1. Add-access-key-panel-tree (Mod 3,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.4.2. Add-security-panel-tree (Mod 3,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.4.3. Delete-access-key-panel-tree (Mod 3,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.4.4. Delete-security-panel-tree (Mod 3,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.4.5. Modify-security-panel-tree (Mod 3,7)
DIFFERENT: This does not correspond to a feature in the CDM.
- 1.5. IRD-IRD interface panel trees
 - 1.5.1. Check-IRD Schema compatibility-panel-tree (mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.5.2. Create-IRD-panel-tree (mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.5.3. Export-IRD-panel-tree (mod 1,5,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 1.5.4. Import-IRD-panel-tree (mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
- 2. IRD Schema trees
 - 2.1. IRD Schema maintenance panel trees
 - 2.1.1. Activate-IRD-panel-tree (Mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.2. Add-meta-entity-panel-tree (Mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.3. Add-meta-relationship-panel-tree (Mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.4. Copy-meta-entity-panel-tree (Mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.5. Deactivate-IRD-panel-tree (Mod 1,5)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.6. Delete-meta-entity-panel-tree (Mod 1,5,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.7. Delete-meta-relationship-panel-tree (Mod 1,5,7)
DIFFERENT: This does not correspond to a feature in the CDM.
 - 2.1.8. Modify-meta-entity-access-name-panel-tree (Mod 1,5)

- DIFFERENT. This does not correspond to a feature in the CDM.
- 2.1.9. Modify-meta-entity-descriptive-name-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.1.10. Modify-meta-entity-life-cycle-name-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.1.11. Modify-meta-entity-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.1.12. Modify-meta-relationship-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.1.13. Restore-IRD-schema-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.2. IRD Schema output panel trees
- 2.2.1. Inquire-meta-entity-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.2.2. Inquire-meta-relationship-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.2.3. IRD-Schema-output-panel-tree (Mod 1,5)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.3. IRD schema structure panel trees
- 2.3.1. Add-IRD-schema-structure-panel-tree (Mod 4)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.3.2. Copy-IRD-schema-structure-panel-tree (Mod 4)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.3.3. Delete-IRD-schema-structure-panel-tree (Mod 4)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.3.4. Install-IRD-structure-panel-tree (Mod 4)
DIFFERENT. This does not correspond to a feature in the CDM.
- 2.3.5. Modify-IRD-schema-structure-panel-tree (Mod 4)
DIFFERENT. This does not correspond to a feature in the CDM.

APPENDIX E

CDM NDDL COMMANDS

The NDDL commands that are use to describe the CDM are also use to describe the CDM1 (the CDM1 is the schema for the CDM). Note that the CDM does not use restriction clauses per se. However, each subclause of a NDDL command does in fact act as a qualification and restriction. The references about each CDM command is in relation to the IRDS commands. The reference in parentheses is the number of the corresponding command or clause in the IRDS Command outline [Appendix C]. The descriptions for each of the outline components uses the following terminology.

- "SAME" which implies a good relationship between the CDM & IRDS
- "SIMILAR" which implies that the IRDS does not have many of the features of the item.
- "DIFFERENT" which implies that there is not any correspondence for the CDM item in the IRDS

The reference in parentheses is the number of the corresponding command or clause in the IRDS Command outline [Appendix C].

Points of Comparison	Same	Similar	Different
603	168	42	393

1. General Commands

1.1. Session Control Commands

SIMILAR: This is similar to the IRDS command Set-session-defaults (3.2.15)

1.1.1. Commit

DIFFERENT: This does not correspond to a feature in the IRDS.

1.1.2. Halt

SIMILAR: This is similar to the IRDS command: Exit-IRDS-System (3.2.7)

1.1.2.1. rollback

1.1.3. Rollback

DIFFERENT: This does not correspond to a feature in the IRDS.

1.1.4. Set Commit

DIFFERENT: This does not correspond to a feature in the IRDS.

1.1.5. Set Output

DIFFERENT: This does not correspond to a feature in the IRDS.

1.1.5.1. file

DIFFERENT: This does not correspond to a feature in the IRDS.

1.1.5.2. screen

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2. Documentation Commands

1.2.1. Create Description Type

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.2. Describe

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.2.1. Attribute

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.2.2. Database

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.2.3. Data item

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.2.4. Data type

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.5. Domain
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.6. Entity
SIMILAR: This is similar to the IRDS command/clause Add-meta-entity/New-text-meta-attribute (1.1.3.8)
- 1.2.2.7. Field
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.8. Host
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.9. Keyword
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.10. Model
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.11. Record
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.12. Relation
SIMILAR: This is similar to the IRDS command/clause Add-meta-relationship/New-text-meta-attribute (1.1.3.8)
- 1.2.2.13. Set
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.2.14. View
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.3. Drop Description Type
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.4. Rename
SAME: This is much the same as the IRDS command: Modify-meta-entity-access-name (1.1.13)
- 1.2.4.1. Attribute
DIFFERENT: This does not correspond to a feature in the IRDS.
- 1.2.4.2. Database

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.3. Data item

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.4. Data type

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.5. Domain

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.6. Entity

SAME: This is much the same as the IRDS command: Modify-meta-entity-access-name (1.1.13)

1.2.4.7. Field

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.8. Host

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.9. Keyword

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.10. Model

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.11. Record

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.12. Relation

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.13. Set

DIFFERENT: This does not correspond to a feature in the IRDS.

1.2.4.14. View

DIFFERENT: This does not correspond to a feature in the IRDS.

1.3. Verification Commands

1.3.1. Check Model

DIFFERENT: This does not correspond to a feature in the IRDS.

1.3.2. Compare Model

SAME: This is much the same as the IRDS command:
Check-IRD-schema-compatibility (3.1.1)

1.3.2.1. Model clause

SAME: This is much the same as the IRDS command:
Check-IRD-schema-compatibility (3.1.1)

1.4. Copy/Merge Commands

1.4.1. Combine Entity

DIFFERENT: This does not correspond to a feature in the
IRDS.

1.4.2. Copy Attribute

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.2.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.3. Copy Database

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.3.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.4. Copy DBMS

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.4.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.5. Copy Description

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.5.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.6. Copy Description Type

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.6.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.7. Copy Domain

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.7.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.8. Copy Entity

SAME: This is much the same as the IRDS commands:
Output-syntax (2.2.3), Copy-meta-entity (1.1.6), Copy-
entity (2.1.5), & Entity-access-name-selection-clause of
Output-syntax (2.2.3.6)

SIMILAR: This is similar to the IRDS command/clause
Output-syntax/All-entities (2.2.3.1)

1.4.8.1. relation

SAME: This is much the same as the IRDS
command/clauses: Copy-meta-entity/with-meta-
relationship (1.1..6.3) & Copy-entity/with-meta-
relationship (2.1.5.4)

1.4.8.2. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.8.3. structure

DIFFERENT: This does not correspond to a feature in
the IRDS.

1.4.9. Copy Host

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.9.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.10. Copy Map

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.10.1. entity

DIFFERENT: This does not correspond to a feature in
the IRDS.

1.4.10.2. record

DIFFERENT: This does not correspond to a feature in
the IRDS.

1.4.10.3. relation

DIFFERENT: This does not correspond to a feature in
the IRDS.

1.4.10.4. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.10.5. set

DIFFERENT: This does not correspond to a feature in the IRDS.

1.4.11. Copy Model

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.11.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.12. Copy Module

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.12.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.13. Copy Record

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.13.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.14. Copy Set

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.14.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.15. Copy View

SAME: This is much the same as the IRDS command:
Output-syntax (2.2.3)

1.4.15.1. Route

SIMILAR: This is similar to the IRDS Command/clause:
Output-syntax/route (2.2.3.24)

1.4.16. Merge Model

DIFFERENT: This does not correspond to a feature in the IRDS.

2. CS Related Commands

2.1. CS Creation

2.1.1. Create Alias

DIFFERENT: This does not correspond to a feature in the IRDS.

2.1.1.1. Attribute

DIFFERENT: This does not correspond to a feature in the IRDS.

- 2.1.1.2. Entity
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.1.2. Create Attribute
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.2.1. domain
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.2.2. Keyword
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.1.3. Create Domain
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.3.1. data-type
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.3.2. range
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.3.3. value
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.1.4. Create Entity
SAME: This is much the same as the IRDS commands: Add-meta-entity (1.1.3) & Add-entity (2.1.2)
 - 2.1.4.1. Key
SAME: This is much the same as the IRDS command/clause: Add-entity/ new entity-attributes (2.1.2.5)
 - 2.1.4.2. Keyword
SAME: This is much the same as the IRDS command/clause: Add-entity/ new entity-attributes (2.1.2.5)
 - 2.1.4.3. Owned Attribute
SAME: This is much the same as the IRDS commands/clauses: Add-entity/ new entity-attributes (2.1.2.5), Add-entity/ new-simple-attribute-group (2.1.2.8), Add-meta-entity/ new-meta-attributes (1.1.3.6), Add-meta-entity/ new-meta-attribute-group (1.1.3.5), & Add-meta-entity/ simple-meta-attribute (1.1.3.10)

- 2.1.5. Create Model
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.1.6. Create Relation
SAME: This is much the same as the IRDS commands: Add-relationship (2.1.3)
 - 2.1.6.1. Migrates
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.6.2. Keyword
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.1.7. Create Category
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.7.1. Incomplete/Complete
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.7.2. Discriminator
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.1.7.3. Keyword
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2. CS Modification
 - 2.2.1. Alter Alias
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.1.1. Attribute
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.1.2. Entity
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.2. Alter Attribute
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.2.1. Domain
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.2.2. Key
DIFFERENT: This does not correspond to a feature in the IRDS.

- 2.2.2.3. Keyword
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.2.4. Migrates
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.2.5. Ownership
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.3. Alter Domain
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.3.1. add/drop/alter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.3.2. Data Type
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.3.3. Range
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.3.4. Value
DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.4. Alter Entity
SAME: This is much the same as the IRDS commands:
Modify-meta-entity (1.1.14) & Modify-entity (2.1.11)
 - 2.2.4.1. Add Owned Attribute
SAME: This is much the same as the IRDS commands/clauses: Modify-meta-entity/simple-meta-attribute (1.1.14.12), Modify-meta-entity/modified-meta-attribute-group (1.1.14.6), Modify-meta-entity/modified-meta-attributes (1.1.14.7), Modify-entity/modified-entity-attributes (2.1.11.6), Modify-entity/modified-simple-attribute-group (2.1.11.9), & Modify-entity/simple-attribute (2.1.11.14)
 - 2.2.4.2. add/drop/alter
SAME: This is much the same as the IRDS commands/clauses: Modify-meta-entity/simple-meta-attribute (1.1.14.12) & Modify-entity (2.1.11)
 - 2.2.4.3. Attribute

- SAME: This is much the same as the IRDS commands/clauses: Modify-meta-entity/simple-meta-attribute (1.1.14.12) & Modify-entity (2.1.11)
- 2.2.4.4. Drop Owned Attribute
 - SAME: This is much the same as the IRDS commands/clauses: Modify-meta-entity/simple-meta-attribute (1.1.14.12) & Modify-entity (2.1.11)
- 2.2.4.5. Key
 - SAME: This is much the same as the IRDS commands: Modify-entity-access-name (1.1.10)
- 2.2.4.6. Key Class
 - SAME: This is much the same as the IRDS commands: Modify-entity-access-name (1.1.10)
- 2.2.4.7. Keyword
 - SAME: This is much the same as the IRDS commands: Modify-meta-entity (1.1.14) & Modify-entity (2.1.11)
- 2.2.5. Alter Model
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.6. Alter Relation
 - SAME: This is much the same as the IRDS commands: Modify-meta-relationship (1.1.17) & Modify-relationship (2.1.14)
 - 2.2.6.1. add/drop
 - SAME: This is much the same as the IRDS command/clause: Modify-relationship/relationship-identification (2.1.14.12)
 - 2.2.6.2. Keyword
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.6.3. Migrates
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.7. Drop Alias
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.7.1. Attribute
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 2.2.7.2. Entity
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 2.2.8. Drop Attribute

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.9. Drop Domain

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.10. Drop Entity

SAME: This is much the same as the IRDS commands:
Delete-meta-entity (1.1.17) & Delete-entity (2.1.14)

2.2.11. Drop Keyword

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.12. Drop Model

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.13. Drop Relation

SAME: This is much the same as the IRDS commands:
Delete-meta-relationship (1.1.10) & Delete-relationship (2.1.18)

2.2.14. Alter Category

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.14.1. Add/Drop

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.14.2. Incomplete/Complete

DIFFERENT: This does not correspond to a feature in the IRDS.

2.2.15. Drop Category

DIFFERENT: This does not correspond to a feature in the IRDS.

3. IS Related Commands

3.1. IS Creation

3.1.1. Define Database

DIFFERENT: This does not correspond to a feature in the IRDS.

3.1.1.1. character-null

DIFFERENT: This does not correspond to a feature in the IRDS.

3.1.1.2. host

DIFFERENT: This does not correspond to a feature in the IRDS.

3.1.1.3. integer-null

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.1.4. Located
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.1.5. NTM directory
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.1.6. Password
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.1.7. PSB
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.1.8. Schema
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.2. Define DBMS
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 3.1.2.1. Host
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 3.1.2.2. model
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.3. Define Host
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 3.1.3.1. DBMS
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.4. Define PSB
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 3.1.4.1. host
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5. Define Record
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 3.1.5.1. Areas

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.2. Columns/Fields
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.3. data base
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.4. Data Type
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.5. Indexed
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.6. Key
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.7. known/unknown
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.8. Occurs
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.5.9. Redefines
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.6. Define Set
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.6.1. data base
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.6.2. kinked
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.1.6.3. relating
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2. IS Modification
 - 3.2.1. Alter Database
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 3.2.1.1. Areas

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.2. character null
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.3. Host
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.4. integer null
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.5. Located
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.6. Password
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.7. PSB
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.1.8. Schema
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.2. Alter DBMS
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.2.1. Host
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.2.2. Model
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.3. Alter Domain
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4. Alter Field
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.1. data base
DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.2. Data Type

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.3. indexed
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.4. Key
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.5. known
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.6. occurs
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.7. record
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.4.8. Redefines
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.5. Alter Host
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.5.1. DBMS
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.6. Alter PSB
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.6.1. host
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.7. Alter Record
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.7.1. add/drop
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.7.2. Areas
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 3.2.7.3. Field

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.8. Drop Database

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.9. Drop DBMS

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.10. Drop Domain

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.11. Drop Field

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.12. Drop Host

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.13. Drop PSB

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.14. Drop Record

DIFFERENT: This does not correspond to a feature in the IRDS.

3.2.15. Drop Set

DIFFERENT: This does not correspond to a feature in the IRDS.

4. CS-IS Mapping Related Commands

4.1. CS-IS Mapping Creation

4.1.1. Create Map

DIFFERENT: This does not correspond to a feature in the IRDS.

4.1.1.1. active

DIFFERENT: This does not correspond to a feature in the IRDS.

4.1.1.2. Field

DIFFERENT: This does not correspond to a feature in the IRDS.

4.1.1.3. passive

DIFFERENT: This does not correspond to a feature in the IRDS.

4.1.1.4. preference

DIFFERENT: This does not correspond to a feature in the IRDS.

- 4.1.1.5. record
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.1.6. retrieval
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.1.7. Set
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.1.8. update
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.2. Create Partition
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.2.1. record
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.3. Create Union
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.3.1. entity
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.4. Define Algorithm
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.4.1. parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.4.2. preference
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.4.3. retrieval/update
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.5. Define Module
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.5.1. data type
DIFFERENT: This does not correspond to a feature in the IRDS.
- 4.1.5.2. language

DIFFERENT: This does not correspond to a feature in the IRDS.

4.1.5.3. parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2. CS-IS Mapping Modification

4.2.1. Alter Map

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.1. add/drop

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.2. Preference

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.3. Category

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.4. Classification

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.5. Field

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.6. Set

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.7. Update

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.8. Retrieval

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.1.9. Record

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.2. Alter Module

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.2.1. language

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.2.2. add/drop

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.2.3. parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.2.4. data type

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.3. Alter Partition

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.3.1. add/drop

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.3.2. Record

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.4. Alter Union

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.4.1. add/drop

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.4.2. Entity

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.5. Drop Algorithm

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.6. Drop Map

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.7. Drop Module

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.8. Drop Partition

DIFFERENT: This does not correspond to a feature in the IRDS.

4.2.9. Drop Union

DIFFERENT: This does not correspond to a feature in the IRDS.

5. ES-CS Mapping Related Commands

5.1. ES-CS Mapping Creation

5.1.1. Alter Domain

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.1.1. Alter Data Type

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.1.2. Value

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.1.3. Range

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.1.4. add/drop

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.2. Create View

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.2.1. Data Item

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.2.2. As Select

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.2.3. From

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.2.4. Where

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.3. Define Algorithm

DIFFERENT: This does not correspond to a feature in the IRDS.

5.1.4. Define Module

DIFFERENT: This does not correspond to a feature in the IRDS.

5.2. ES-CS Mapping Modification

5.2.1. Alter Domain

DIFFERENT: This does not correspond to a feature in the IRDS.

5.2.1.1. Alter Data Type

DIFFERENT: This does not correspond to a feature in the IRDS.

- 5.2.1.2. Value
DIFFERENT: This does not correspond to a feature in the IRDS.
- 5.2.1.3. Range
DIFFERENT: This does not correspond to a feature in the IRDS.
- 5.2.2. Alter Module
DIFFERENT: This does not correspond to a feature in the IRDS.
- 5.2.3. Drop Algorithm
DIFFERENT: This does not correspond to a feature in the IRDS.
- 5.2.4. Drop Module
DIFFERENT: This does not correspond to a feature in the IRDS.
- 5.2.5. Drop View
DIFFERENT: This does not correspond to a feature in the IRDS.
- 5.2.6. Drop LUW
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6. Utilities
 - 6.1. Build CDM Utility
SAME: This is much the same as the IRDS command: Create-IRD (3.1.2)
 - 6.2. DDL/NDDL Translator
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.3. CDM Impact Analysis
SAME: This is much the same as the IRDS command: Output-impact-of-change (2.2.2)
 - 6.4. Bridges
DIFFERENT: This does not correspond to a feature in the IRDS
 - 6.4.1. Janus
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.4.2. Precise (PC-IAST)
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5. CDM Reports
 - 6.5.1. Conceptual Schema Reports
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.1. Model Contents Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.1.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.1.2. Entities parameter

SAME: This is much the same as the IRDS
command/clause: general-output/entity-access-name (2.2.1.5)

6.5.1.1.3. Model parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.1.4. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.1.5. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.2. Conceptual Schema Key Report

SAME: This is much the same as the IRDS
command/clause: general-output/show-entity-access-name (2.2.1.31)

6.5.1.2.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.2.2. Entities parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.2.3. Model parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.2.4. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.2.5. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.3. Descriptions

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.3.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

- 6.5.1.3.2. Attributes parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.3.3. Entities parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.3.4. Model parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.3.5. Objects parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.3.6. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.1.3.7. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.4. Attribute Where Used Report
SAME: This is much the same as the IRDS
command/clause: general-output/show-attributes (2.2.1.28)
- 6.5.1.4.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.4.2. Attributes parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.4.3. Model parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.4.4. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.1.4.5. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.5. List of Models
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.5.1. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

- 6.5.1.5.2. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.6. Entity Contents Report
SAME: This is much the same as the IRDS
command/clause: general-output/show-entities (2.2.1.30)
 - 6.5.1.6.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.6.2. Entities parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.6.3. Model parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.6.4. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
 - 6.5.1.6.5. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.7. Entity Structure report (FEO)
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.7.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.7.2. Entities parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.7.3. Model parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.1.7.4. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
 - 6.5.1.7.5. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.1.8. Relation Report

SAME: This is much the same as the IRDS
command/clause: general-cutput/show-relationship
(2.2.1.38)

6.5.1.8.1. Model parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.8.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.8.3. Password parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.9. List of Attributes for a Domain

DIFFERENT: This does not correspond to a feature in
the IRDS.

6.5.1.9.1. Domain parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.9.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.9.3. Password parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.10. Aliases Reports

SIMILAR: This is similar to the IRDS command/clause:
General-output/ variation-name-restriction (2.2.1.46).

6.5.1.10.1. Attribute parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.10.2. All parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.10.3. Entity parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.10.4. Model parameter

DIFFERENT: This does not correspond to a feature
in the IRDS.

6.5.1.10.5. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.10.6. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.11. Attributes Not Used by an Entity

SAME: This is much the same as part of the IRDS
command/clause: general-output/show-attributes
(2.2.1.28)

6.5.1.11.1. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.11.2. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.12. Entities with no Relations

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.12.1. Model parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.12.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.12.3. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.13. Empty Entities

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.13.1. Model parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.1.13.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.1.13.3. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2. External Schema Reports

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.1. External Schema Contents Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.1.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.1.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.2.1.3. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.1.4. View parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.2. Logical Unit of Work Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.2.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.2.2. LUW parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.2.3. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.2.2.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.3. View Where Used Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.3.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.3.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.2.3.3. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.3.4. View parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.4. Descriptions

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.4.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.4.2. Data item parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.4.3. Objects parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.4.4. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.2.4.5. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.4.6. View parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.5. List of Data Items for a Data Type

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.5.1. Data type parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.5.2. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.2.5.3. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.6. Data Item Usage Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.6.1. Output file parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.6.2. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.7. Generated Software Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.7.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.7.2. LUW parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.2.7.3. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.2.7.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3. Internal Schema Reports

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.1. Internal Schema Contents Report

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.1.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.1.2. Database parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.1.3. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.3.1.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.1.5. Record parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.2. Distributed Environment List

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.2.1. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.3.2.2. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.3. Descriptions

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.3.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.3.2. Database parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.3.3. Objects parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.3.4. Output file parameter

SAME: This is much the same as the IRDS command/clause: general-output/route (2.2.1.26)

6.5.3.3.5. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.3.6. Record parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.4. List of Data Fields for a Data Type

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.4.1. Data type parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.3.4.2. Output file parameter

SAME: This is much the same as the IRDS command/clause: general-output/route (2.2.1.26)

6.5.3.4.3. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4. Conceptual to Internal Schema Reports

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4.1. Attribute to Field CS-IS Mappings

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4.1.1. All parameter

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.1.2. Entity parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.1.3. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.4.1.4. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.1.5. Record parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.2. Find Mappings for a Conceptual Schema Relation Class
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.2.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.2.2. Entity parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.2.3. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.4.2.4. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.3. Find Mapping Rules for an Entity
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.3.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.3.2. Entity parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.4.3.3. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.4.3.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4.4. Attributes Not Mapped

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4.4.1. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.4.4.2. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4.5. Data Fields Not Mapped

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.4.5.1. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.4.5.2. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.5. Conceptual to External Schema Reports

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.5.1. Find External Schema Mappings for a Conceptual Schema Entity

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.5.1.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.5.1.2. Entity parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.5.1.3. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.5.1.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.5.2. Find Conceptual Schema Mappings for an External Schema View

DIFFERENT: This does not correspond to a feature in the IRDS.

- 6.5.5.2.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.2.2. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.5.2.3. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.2.4. View parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.3. Attributes Not mapped to External Schema
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.3.1. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.5.3.2. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.4. Entities Used by External Schema
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.4.1. All parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.4.2. Entity parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.5.4.3. Output file parameter
SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)
- 6.5.5.4.4. Password parameter
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6. Domain Reports
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6.1. Domain Contents Report
DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6.1.1. All parameter

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6.1.2. Domain parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6.1.3. Output file parameter
 - SAME: This is much the same as the IRDS
 - command/clause: general-output/route (2.2.1.26)
- 6.5.6.1.4. Password parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6.2. Descriptions
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.2.1. All parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.2.2. Data type parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.2.3. Objects parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.2.4. Output file parameter
 - SAME: This is much the same as the IRDS
 - command/clause: general-output/route (2.2.1.26)
 - 6.5.6.2.5. Password parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.6.3. Domain Ranges / Values Report
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.3.1. All parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.3.2. Domain parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
 - 6.5.6.3.3. Output file parameter
 - SAME: This is much the same as the IRDS
 - command/clause: general-output/route (2.2.1.26)
 - 6.5.6.3.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7. Keyword Usage Reports

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.1. Keyword Usage

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.1.1. All parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.1.2. Keyword parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.1.3. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.7.1.4. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.2. Model Keyword Usage

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.2.1. All Keywords parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.2.2. Model parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.2.3. Object parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.2.4. Output file parameter

SAME: This is much the same as the IRDS
command/clause: general-output/route (2.2.1.26)

6.5.7.2.5. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.3. Model Entity Keyword Usage

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.3.1. All Keywords parameter

- DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.3.2. Model parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.3.3. Object parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.3.4. Output file parameter
 - SAME: This is much the same as the IRDS command/clause: general-output/route (2.2.1.26)
- 6.5.7.3.5. Password parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.4. Model Attribute Keyword Usage
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.4.1. All Keywords parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.4.2. Model parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.4.3. Object parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.4.4. Output file parameter
 - SAME: This is much the same as the IRDS command/clause: general-output/route (2.2.1.26)
- 6.5.7.4.5. Password parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.5. Model Relation Keyword Usage
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.5.1. All Keywords parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.5.2. Model parameter
 - DIFFERENT: This does not correspond to a feature in the IRDS.
- 6.5.7.5.3. Object parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

6.5.7.5.4. Output file parameter

SAME: This is much the same as the IRDS command/clause: general-output/route (2.2.1.26)

6.5.7.5.5. Password parameter

DIFFERENT: This does not correspond to a feature in the IRDS.

7. NDML/SQL commands

SIMILAR: These are similar to the IRDS commands : Build-entity-list (3.2.1), Entity-list-difference (3.2.3), Entity-list-intersection (3.2.4), Entity-list-subtraction (3.2.5), Entity-list-union (3.2.6), Name-current-entity-list (3.2.9), Output-entity-list (3.2.10), and Output-entity-list-names (3.2.11),

APPENDIX F

IRDS STRUCTURE

(IRD SCHEMA DEFINITION, IRD SCHEMA, IRD, "REAL WORLD/PHYSICAL DATA")

This appendix outlines the IRDS model structure. The references to "Mod x,y,...y" denotes that the item is originally defined in module x of the IRDS standard and extended in modules y of the standard.

I. Meta-Entity-Types (Mod 1)

"In an IRDS, at IRD schema description level, the label for a set of meta-entities with common meta-attribute-types."

In an IRDS, at IRD or IRD schema level, the following are present:

- **ACCESS-NAME.** The primary identifier of each entity or meta-entity, i.e., the name by which the entity is known to the user. It consists of the assigned-access-name and the version-identifier.
- **ASSIGNED-ACCESS-NAME.** (1) In an IRD, at data content level, a user- or system-assigned name which, in combination with variation-name, provides unique access to an entity when first added to the IRD. (2) In an, at schema level, a user-assigned name which provides unique access to a meta-entity when first added to the schema.
- **ASSIGNED-DESCRIPTIVE-NAME.** A name for an entity or meta-entity which is more descriptive than the assigned-access-name.
- **DESCRIPTIVE-NAME.** A unique and more descriptive name for an entity or meta-entity. It consists of the assigned-descriptive-name and the version-identifier.
- **REVISION-NUMBER.** (1) In an IRDS, at IRD or IRD schema level, a positive integer consecutively assigned to each change affecting an IRD entity or meta-entity, respectively. (2) In an IRD, at data content or schema level, a component of the version-identifier of an IRD entity or meta-entity, respectively. (3) See also version-identifier.
- **VARIATION-NAME.** (1) In an IRDS, at IRD or IRD schema level, a label which identifies a grouping of entities or meta-entities used for control purposes. It is a component of the version-identifier. The variation-name of a meta-entity is always blank. (2) See also version-identifier.
- **VERSION-IDENTIFIER.** A label which distinguishes among entities or meta-entities with the same assigned-access-name. It consists of the variation-name and the revision-

number and is a component of an access-name or a descriptive-name.

- A. Attribute-group-type (Mod 1)
 - a Meta-Entity-Type
 - 1. Allowable-range (Mod 2)
 - a Meta-Entity
 - 2. Date-time-added (Mod 1)
 - a Meta-Entity
 - This is much the same as the CDM attribute-types: Creation-date, Date-created, Generated-date, & Precomp-date.
 - 3. Date-time-last-modified (Mod 1)
 - a Meta-Entity
 - This is much the same as the CDM attribute-types: Date-modified, Last-comp-stat, & Last-rev-date.
 - 4. Duration (Mod 2)
 - a Meta-Entity
 - 5. Identification-names (Mod 2)
 - a Meta-Entity
 - This is much the same as the CDM entity-type: Entity-name.
 - 6. IRD-permissions (Mod 3)
 - a Meta-Entity
 - 7. IRD-schema-permissions (Mod 3)
 - a Meta-Entity
 - B. Attribute-type (Mod 1)
 - a Meta-Entity-Type
 - 1. Access-keys-permission (Mod 3)
 - a Meta-Entity
 - 2. Access-method (Mod 2)
 - a Meta-Entity
 - 3. Add-and-secure-permission (Mod 3)
 - a Meta-Entity
 - 4. Add-permission (Mod 3)
 - a Meta-Entity
 - 5. Added-by (Mod 1)
 - a Meta-Entity
 - 6. Allowable-value (Mod 2)
 - a Meta-Entity
 - 7. Alternate-name (Mod 2)
 - a Meta-Entity
 - 8. Alternate-name-context (Mod 2)

- a Meta-Entity
- 9. API-permission (Mod 6)
 - a Meta-Entity
- 10. Classification (Mod 2)
 - a Meta-Entity
- 11. Code-list-location (Mod 2)
 - a Meta-Entity
- 12. Command-language-permission (Mod 3)
 - a Meta-Entity
- 13. Comments (Mod 2)
 - a Meta-Entity
- 14. Data-class (Mod 2)
 - a Meta-Entity
- 15. Data-type (Mod 2)
 - a Meta-Entity
- 16. Default-view (Mod 1)
 - a Meta-Entity
- 17. Definition (Mod 5)
 - a Meta-Entity
- 18. Delete-permission (Mod 3)
 - a Meta-Entity
- 19. Description (Mod 2)
 - a Meta-Entity
- 20. Document-category (Mod 2)
 - a Meta-Entity
- 21. Duration-type (Mod 2)
 - a Meta-Entity
- 22. Duration-value (Mod 2)
 - a Meta-Entity
- 23. Entity-type-name (Mod 3)
 - a Meta-Entity
- 24. Exclude-meta-relationships (Mod 3)
 - a Meta-Entity
- 25. Exclude-relationships (Mod 3)
 - a Meta-Entity
- 26. External-security (Mod 2)
 - a Meta-Entity
- 27. Frequency (Mod 2)
 - a Meta-Entity
- 28. High-of-range (Mod 2)
 - a Meta-Entity
- 29. Internal-format (Mod 2)
 - a Meta-Entity

- 30. IRD-administrator-permission (Mod 3)
 - a Meta-Entity
- 31. IRD-partition-name (Mod 1)
 - a Meta-Entity
- 32. IRD-rename-permission (Mod 3)
 - a Meta-Entity
- 33. IRD-schema-administrator-permission (Mod 3)
 - a Meta-Entity
- 34. IRD-schema-phase-name (Mod 1)
 - a Meta-Entity
- 35. IRD-schema-rename-permission (Mod 3)
 - a Meta-Entity
- 36. Justification (Mod 2)
 - a Meta-Entity
- 37. Last-modified-by (Mod 1)
 - a Meta-Entity
- 38. Length (Mod 2)
 - a Meta-Entity
- 39. Location (Mod 2)
 - a Meta-Entity
- 40. Low-of-range (Mod 2)
 - a Meta-Entity
- 41. Meta-entity-type-name (Mod 3)
 - a Meta-Entity
- 42. Modify-permission (Mod 3)
 - a Meta-Entity
- 43. Modify-phase-permission (Mod 3)
 - a Meta-Entity
- 44. Number-of-lines-of-code (Mod 2)
 - a Meta-Entity
- 45. Number-of-records (Mod 2)
 - a Meta-Entity
- 46. Number-of-times-modified (Mod 1)
 - a Meta-Entity
- 47. Panel-permission (Mod 3)
 - a Meta-Entity
- 48. Precision (Mod 2)
 - a Meta-Entity
- 49. Read-key (Mod 3)
 - a Meta-Entity
- 50. Read-lock (Mod 3)
 - a Meta-Entity
- 51. Read-permission (Mod 3)

- a Meta-Entity
- 52. Record-category (Mod 2)
 - a Meta-Entity
- 53. Relative-position (Mod 2)
 - a Meta-Entity
- 54. Scale (Mod 2)
 - a Meta-Entity
- 55. Secure-entity-permission (Mod 3)
 - a Meta-Entity
- 56. System-category (Mod 2)
 - a Meta-Entity
- 57. System-date (Mod 1)
 - a Meta-Entity
- 58. System-generated-name (Mod 1)
 - a Meta-Entity
- 59. System-time (Mod 1)
 - a Meta-Entity
- 60. Usage (Mod 2)
 - a Meta-Entity
- 61. Write-key (Mod 3)
 - a Meta-Entity
- 62. Write-lock (Mod 3)
 - a Meta-Entity
- C. Attribute-type-validation-data (Mod 1)
 - a Meta-Entity-Type
 - 1. Yes-or-no-value (Mod 1)
 - a Meta-Entity
- D. Attribute-type-validation-procedure (Mod 1)
 - a Meta-Entity-Type
 - 1. Range-validation (Mod 1)
 - a Meta-Entity
 - 2. Value-validation (Mod 1)
 - a Meta-Entity
- E. Entity-type (Mod 1)
 - a Meta-Entity-Type
 - 1. Access-controller (Mod 3)
 - a Meta-Entity
 - 2. Document (Mod 2)
 - a Meta-Entity
 - 3. Element (Mod 2)
 - a Meta-Entity
 - 4. File (Mod 2)
 - a Meta-Entity

- 5. IRD-schema-view (Mod 1,3)
 - a Meta-Entity
 - a) Administrator-IRD-schema-view (Mod 1)
 - an entity
- 6. IRD-structure (Mod 4)
 - a Meta-Entity
- 7. IRD-view (Mod 1,3)
 - a Meta-Entity
 - a) Administrator-IRD-view (Mod 1)
 - an entity
- 8. IRDS-procedure (Mod 5)
 - a Meta-Entity
- 9. IRDS-user (Mod 1,3)
 - a Meta-Entity
 - a) Administrator (Mod 1)
 - an entity
- 10. Module (Mod 2)
 - a Meta-Entity
- 11. Phase-sensitivity-structure (Mod 4)
 - a Meta-Entity
- 12. Program (Mod 2)
 - a Meta-Entity
- 13. Record (Mod 2)
 - a Meta-Entity
- 14. System (Mod 2)
 - a Meta-Entity
- 15. User (Mod 2)
 - a Meta-Entity
- F. IRD-partition (Mod 1)
 - a Meta-Entity-Type
 - 1. Archived-life-cycle-phase (Mod 1)
 - a Meta-Entity
 - 2. Controlled-life-cycle-phase (Mod 1)
 - a Meta-Entity
 - 3. Security (Mod 1)
 - a Meta-Entity
 - 4. Uncontrolled-life-cycle-phase (Mod 1)
 - a Meta-Entity
- G. IRD-schema-structure (Mod 4)
 - a Meta-Entity-Type
- H. IRDS-defaults (Mod 1)
 - a Meta-Entity-Type
 - 1. Existing-IRDS-defaults (Mod 1)

- a Meta-Entity
- I. IRDS-limits (Mod 1)
 - a Meta-Entity-Type
 - 1. Existing-IRDS-limits (Mod 1)
 - a Meta-Entity
- J. IRDS-reserved-names (Mod 1)
 - a Meta-Entity-Type
 - 1. Standard-reserved-names (Mod 1,3)
 - a Meta-Entity
- K. Names (Mod 1)
 - a Meta-Entity-Type
 - 1. Naming-rules (Mod 1)
 - a Meta-Entity
- L. Quality-indicator (Mod 1)
 - a Meta-Entity-Type
- M. Relationship-class-type (Mod 1)
 - a Meta-Entity-Type
 - 1. Calls (Mod 2)
 - a Meta-Entity
 - 2. Contains (Mod 2)
 - a Meta-Entity
 - 3. Derived-from (Mod 2)
 - a Meta-Entity
 - 4. Goes-to (Mod 2)
 - a Meta-Entity
 - 5. Has (Mod 1)
 - a Meta-Entity
 - 6. Processes (Mod 2)
 - a Meta-Entity
 - 7. Responsible-for (Mod 2)
 - a Meta-Entity
 - 8. Runs (Mod 2,5)
 - a Meta-Entity
 - 9. Secured-by (Mod 3)
 - a Meta-Entity
- N. Relationship-type (Mod 1)
 - a Meta-Entity-Type
 - 1. \$\$X-secured-by-access-controller (Mod 3)
 - a Meta-Entity
 - 2. Document-contains-document (Mod 2)
 - a Meta-Entity
 - 3. Document-contains-element (Mod 2)
 - a Meta-Entity

4. Document-contains-record (Mod 2)
a Meta-Entity
5. Document-derived-from-document (Mod 2)
a Meta-Entity
6. Document-derived-from-file (Mod 2)
a Meta-Entity
7. Document-derived-from-record (Mod 2)
a Meta-Entity
8. Element-contains-element (Mod 2)
a Meta-Entity
9. Element-derived-from-document (Mod 2)
a Meta-Entity
10. Element-derived-from-element (Mod 2)
a Meta-Entity
11. Element-derived-from-file (Mod 2)
a Meta-Entity
12. Element-derived-from-record (Mod 2)
a Meta-Entity
13. Element-standard-for-element (Mod 2)
a Meta-Entity
14. File-contains-document (Mod 2)
a Meta-Entity
15. File-contains-element (Mod 2)
a Meta-Entity
16. File-contains-file (Mod 2)
a Meta-Entity
17. File-contains-record (Mod 2)
a Meta-Entity
18. File-derived-from-document (Mod 2)
a Meta-Entity
19. File-derived-from-file (Mod 2)
a Meta-Entity
20. File-has-access-key-element (Mod 2)
a Meta-Entity
21. File-has-sort-key-element (Mod 2)
a Meta-Entity
22. IRDS-procedure-runs-IRDS-procedure (Mod 5)
a Meta-Entity
23. IRDS-user-has-IRD-schema-view (Mod 1)
a Meta-Entity
a) Administrator-has-administrator-IRD-view (Mod 1)
a entity
24. IRDS-user-has-IRD-view (Mod 1)

- a Meta-Entity
- a) Administrator-has-administrator-IRD- (Mod 1)
 - a entity
- 25. Module-call-module (Mod 2)
 - a Meta-Entity
- 26. Module-contains-module (Mod 2)
 - a Meta-Entity
- 27. Module-goes-to-module (Mod 2)
 - a Meta-Entity
- 28. Module-processes-document (Mod 2)
 - a Meta-Entity
- 29. Module-processes-element (Mod 2)
 - a Meta-Entity
- 30. Module-processes-file (Mod 2)
 - a Meta-Entity
- 31. Module-processes-record (Mod 2)
 - a Meta-Entity
- 32. Program-calls-module (Mod 2)
 - a Meta-Entity
- 33. Program-calls-program (Mod 2)
 - a Meta-Entity
- 34. Program-contains-module (Mod 2)
 - a Meta-Entity
- 35. Program-contains-program (Mod 2)
 - a Meta-Entity
- 36. Program-goes-to-program (Mod 2)
 - a Meta-Entity
- 37. Program-processes-document (Mod 2)
 - a Meta-Entity
- 38. Program-processes-element (Mod 2)
 - a Meta-Entity
- 39. Program-processes-file (Mod 2)
 - a Meta-Entity
- 40. Program-processes-record (Mod 2)
 - a Meta-Entity
- 41. Record-contains-element (Mod 2)
 - a Meta-Entity
- 42. Record-contains-record (Mod 2)
 - a Meta-Entity
- 43. Record-derived-from-document (Mod 2)
 - a Meta-Entity
- 44. Record-derived-from-file (Mod 2)
 - a Meta-Entity

- 45. Record-derived-from-record (Mod 2)
 - a Meta-Entity
- 46. System-contains-module (Mod 2)
 - a Meta-Entity
- 47. System-contains-program (Mod 2)
 - a Meta-Entity
- 48. System-contains-system (Mod 2)
 - a Meta-Entity
- 49. System-goes-to-system (Mod 2)
 - a Meta-Entity
- 50. System-processes-document (Mod 2)
 - a Meta-Entity
- 51. System-processes-element (Mod 2)
 - a Meta-Entity
- 52. System-processes-file (Mod 2)
 - a Meta-Entity
- 53. System-processes-record (Mod 2)
 - a Meta-Entity
- 54. User-processes-document (Mod 2)
 - a Meta-Entity
- 55. User-processes-element (Mod 2)
 - a Meta-Entity
- 56. User-processes-file (Mod 2)
 - a Meta-Entity
- 57. User-processes-record (Mod 2)
 - a Meta-Entity
- 58. User-responsible-for-document (Mod 2)
 - a Meta-Entity
- 59. User-responsible-for-element (Mod 2)
 - a Meta-Entity
- 60. User-responsible-for-file (Mod 2)
 - a Meta-Entity
- 61. User-responsible-for-module (Mod 2)
 - a Meta-Entity
- 62. User-responsible-for-program (Mod 2)
 - a Meta-Entity
- 63. User-responsible-for-record (Mod 2)
 - a Meta-Entity
- 64. User-responsible-for-system (Mod 2)
 - a Meta-Entity
- 65. User-runs-module (Mod 2)
 - a Meta-Entity
- 66. User-runs-program (Mod 2)

- a Meta-Entity
- 67. User-runs-system (Mod 2)
 - a Meta-Entity
- Q Variation-data-names (Mod 1)
 - a Meta-Entity-Type

II. Meta-Relationship-Types (Mod 1)

"In an IRDS, at IRD schema description level, the label for a set of meta-relationships with common meta-attribute-types."

A. Attribute-group-type-contains-attribute-type (Mod 1)

a Meta-Relationship-Type

1. Allowable-range-contains-High-of-range (Mod 2)
meta-relationship
2. Allowable-range-contains-Low-of-range (Mod 2)
meta-relationship
3. Date-time-added-contains-System-date (Mod 1)
meta-relationship
4. Date-time-added-contains-System-time (Mod 1)
meta-relationship
5. Date-time-last-modified-contains-System-date (Mod 1)
meta-relationship
6. Date-time-last-modified-contains-System-time (Mod 1)
meta-relationship
7. Duration-contains-Duration-type (Mod 2)
meta-relationship
8. Duration-contains-Duration-value (Mod 2)
meta-relationship
9. Identification-names-contains-Alternate-name (Mod 2)
meta-relationship
10. Identification-names-contains-Alternate-name-context
(Mod 2)
meta-relationship
11. IRD-permission-contains-Add-and-secure-permission
(Mod 3)
meta-relationship
12. IRD-permission-contains-Add-permission (Mod 3)
meta-relationship
13. IRD-permission-contains-Delete-permission (Mod 3)
meta-relationship
14. IRD-permission-contains-Entity-type-name (Mod 3)
meta-relationship
15. IRD-permission-contains-Modify-permission (Mod 3)
meta-relationship
16. IRD-permission-contains-Modify-phase-permission (Mod
3)
meta-relationship
17. IRD-permission-contains-Read-permission (Mod 3)
meta-relationship

18. IRD-permission-contains-Secure-entity-permission (Mod 3)
meta-relationship
19. IRD-schema-permissions-contains-Add-permission (Mod 3)
meta-relationship
20. IRD-schema-permissions-contains-Delete-permission (Mod 3)
meta-relationship
21. IRD-schema-permissions-contains-Meta-entity-type-name (Mod 3)
meta-relationship
22. IRD-schema-permissions-contains-Modify-permission (Mod 3)
meta-relationship
23. IRD-schema-permissions-contains-Read-permission (Mod 3)
meta-relationship
- B. Attribute-type-uses-attribute-type-validation-data (Mod 1)
 - a Meta-Relationship-Type
 1. Access-keys-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 2. Add-and-secure-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 3. Add-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 4. Command-language-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 5. Default-view-uses-Yes-or-No-value (Mod 1)
meta-relationship
 6. Delete-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 7. IRD-administrator-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 8. IRD-rename-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
 9. IRD-Schema-administrator-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship

10. IRD-Schema-rename-permission-uses-Yes-or-No-value
(Mod 3)
meta-relationship
11. Modify-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
12. Modify-phase-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
13. Panel-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
14. Read-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
15. Secure-entity-permission-uses-Yes-or-No-value (Mod 3)
meta-relationship
- C. Attribute-type-uses-attribute-type-validation-procedure
(Mod 1)
 - a. Meta-Relationship-Type
 1. "archived-phase" greater-than "controlled-phase" (Mod 4)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
 2. "controlled-phase" greater-than "uncontrolled-phase"
(Mod 4)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
 3. Access-keys-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
 4. Add-and-secure-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
 5. Add-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
 6. Command-language-permission-uses-Value-validation
(Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.

7. Delete-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
8. IRD-administrator-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
9. IRD-rename-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
10. IRD-Schema-administrator-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
11. IRD-Schema-rename-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
12. IRD-structure(1)-has-subset-phase-sensitivity-structure(1) (Mod 4)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
13. Modify-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
14. Modify-phase-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
15. Panel-permission-uses-Value-validation (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
16. Read-permission-uses-Value-validation (Mod 3)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

17. Secure-entity-permission-uses-Value-validation (Mod 3)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

D. Entity-type-contains-attribute-group-type (Mod 1)

a Meta-Relationship-Type

1. Document-contains-date-time-added (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

2. Document-contains-date-time-last-modified (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

3. Document-contains-identification-names (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

4. Element-contains-allowable-range (Mod 2)
meta-relationship

SAME: This is much the same as the CDM relationship-type Domain-class-consists-of domain-range (I.B.50), CDM meta-relationship-types Domain-range-contains-begin-value (II.B.137) & Domain-range-contains-end-value (II.B.139).

5. Element-contains-date-time-added (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

6. Element-contains-date-time-last-modified (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

7. Element-contains-identification-names (Mod 2)
meta-relationship

SAME: This is much the same as the CDM relationship-types Data-field-is-a-data-field-redefinition (I.B.30) & Data-field-is-redefined-by-data-field-redefinition (I.B.37). CDM meta-relationship-types attribute-name-contains-ac-name (II.A.11) + attribute-name-contains-ac-name-type (II.A.12)

8. File-contains-date-time-added (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
9. File-contains-date-time-last-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
10. File-contains-identification-names (Mod 2)
meta-relationship
SAME: This is much the same as the CDM relationship-types Data-base-may-be-accessed-by-schema-names (I.B.24) & Entity-class-is-recognized-by-EC-keyword (I.B.67)
11. IRD-schema-view-contains-date-time-added (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
12. IRD-schema-view-contains-date-time-last-modified (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
13. IRD-schema-view-contains-IRD-schema-permission (Mod 3)
meta-relationship
SAME: This is much the same as the CDM -user
14. IRD-view-contains-date-time-added (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
15. IRD-view-contains-date-time-last-modified (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
16. IRD-view-contains-IRD-permission (Mod 3)
meta-relationship
SAME: This is much the same as the CDM -user
17. IRDS-user-contains-date-time-added (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
18. IRDS-user-contains-date-time-last-modified (Mod 1)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

19. Module-contains-date-time-added (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

20. Module-contains-date-time-last-modified (Mod 2)

meta-relationship

SAME: This is much the same as the CDM meta-relationship-types CDM-generated-mod-contains-generated-date (II.A.47) & Software-module-contains-latest-rev-date (II.A.276).

21. Module-contains-duration (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

22. Module-contains-identification-names (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

23. Program-contains-date-time-added (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

24. Program-contains-date-time-last-modified (Mod 2)

meta-relationship

SAME: This is much the same as the CDM meta-relationship-types Request-processor-main-contains-creation-date (II.A.256) & Software-module-contains-latest-rev-date (II.A.276).

25. Program-contains-duration (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

26. Program-contains-identification-names (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

27. Record-contains-date-time-added (Mod 2)

meta-relationship

- DIFFERENT: This does not compare to a feature in the CDM.
28. Record-contains-date-time-last-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
29. Record-contains-identification-names (Mod 2)
meta-relationship
SAME: This is much the same as a combination of CDM meta-relationship-types Entity-name-contains-ec-name (II.A.161) & Entity-name-contains ec-name-type (II.A.162).
30. System-contains-date-time-added (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
31. System-contains-date-time-last-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
32. System-contains-duration (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
33. System-contains-identification-names (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
34. User-contains-date-time-added (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDM-user-contains-date-granted (II.A.310).
35. User-contains-date-time-last-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
36. User-contains-identification-names (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- E Entity-type-contains-attribute-type (Mod 1)
a Meta-Relationship-Type

1. Access-controller-contains-Read-lock (Mod 3)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type User-tab-auth-contains-permissions (II.A.314).
2. Access-controller-contains-Write-lock (Mod 3)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type User-tab-auth-contains-permissions (II.A.314).
3. Document-contains-Added-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
4. Document-contains-Classification (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
5. Document-contains-Comments (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
6. Document-contains-Description (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
7. Document-contains-Document-category (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
8. Document-contains-External-security (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
9. Document-contains-Last-modified-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
10. Document-contains-Location (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
11. Document-contains-Number-of-times-modified (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

12. Element-contains-Added-by (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

13. Element-contains-Allowable-value (Mod 2)

meta-relationship

SAME: This is much the same as the CDM relationship-type Domain-class-consists-of-domain-value (I.B.51).

14. Element-contains-Classification (Mod 2)

meta-relationship

SAME: This is much the same as the CDM relationship-type Attribute-class-is-recognized-by-AAAC-keyword (I.B.3). & the CDM meta-relationship-type Attribute-keyword-contains-ac-no (II.A.9)

15. Element-contains-Code-list-location (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

16. Element-contains-Comments (Mod 2)

meta-relationship

SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131).

17. Element-contains-Data-class (Mod 2)

meta-relationship

SIMILAR: This is similar to the CDM meta-relationship-types Data-base-contains-character-null (II.A.70) & Data-base-contains-integer-null (II.A.75), however the defaults are at the DB level for numeric and alphanumeric.

18. Element-contains-Data-type (Mod 2)

meta-relationship

SAME: This is much the same as the CDM relationship-type User-defined-data-type-implements-data-item (I.B.127), User-defined-data-type-implements-data-elementary-data-field (I.B.128) & the CDM meta-

- relationship-type Attribute-class-contains domain-no (II.A.7)
19. Element-contains-Description (Mod 2)
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131).meta-relationship
20. Element-contains-External-security (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
21. Element-contains-Internal-format (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type Domain-value-contains-specific-value (II.A.142), Attribute-class-contains-domain-no (II.A.7), Data-item-contains data-type-name (II.A.106), & User-defined-data-type-contains-type-id (II.A.286)
22. Element-contains-Justification (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
23. Element-contains-Last-modified-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
24. Element-contains-Length (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type User-defined-data-type-contains-max-size (II.A.284)
25. Element-contains-Number-of-times-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
26. Element-contains-Precision (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type User-defined-data-type-contains-no-of-decimals (II.A.285).

27. Element-contains-Scale (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
28. Element-contains-Usage (Mod 2)
meta-relationship
SAME: This is much the same as the CDM relationship-types Data-field-is-an-index-DF (I.B.33), Data-field-is-used-as-ECRTUD (I.B.38), Data-field-may-be-data-field-filler(I.B.42), Module-parameter-is-a-AUC-parameter (I.B.90), Module-parameter-is-a-complex-mapping-parameter (I.B.91), Module-parameter-is-a-constraint-input (I.B.92), Module-parameter-is-a-constraint-parameter (I.B.93), Module-parameter-is-a-data-field-parameter (I.B.94), Module-parameter-is-a-data-item-parameter (I.B.95), Module-parameter-is-a-relation-type-parameter (I.B.96), Owned-attribute-appears-as-attribute-use-class (I.B.102), Record-type-appears-as-set-type-member (I.B.106), Record-type-is-owner-in-record-set (I.B.109), .
29. File-contains-Added-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
30. File-contains-Classification (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
31. File-contains-Comments (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131)
32. File-contains-Description (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-

- text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131).
33. File-contains-External-security (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
34. File-contains-Last-modified-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
35. File-contains-Location (Mod 2)
meta-relationship
SAME: This is much the same as the CDM relationship-type Data-base-area-is-used-in-DB-area-assignment (I.B.19), and
SIMILAR: similar to the CDM relationship-type Record-type-has-DB-area-assignment (I.B.108)
36. File-contains-Number-of-records (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
37. File-contains-Number-of-times-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
38. IRD-schema-view-contains-Added-by (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
39. IRD-schema-view-contains-Exclude-meta-relationship (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
40. IRD-schema-view-contains-IRD-schema-administrator-permission (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
41. IRD-schema-view-contains-IRD-schema-phase-name (Mod 1)
meta-relationship

- DIFFERENT: This does not compare to a feature in the CDM.
42. IRD-schema-view-contains-Last-modified-by (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
43. IRD-schema-view-contains-Number-of-times-modified (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
44. IRD-view-contains-Access-keys-permission (Mod 3)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDM-user-contains-role (II.A.312).
45. IRD-view-contains-Added-by (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
46. IRD-view-contains-Exclude-relationships (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
47. IRD-view-contains-IRD-administrator-permission (Mod 3)
meta-relationship
SIMILAR: This is similar to the CDM secure entities.
48. IRD-view-contains-IRD-partition-name (Mod 1)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDM-contains-version (II.A.307).
49. IRD-view-contains-Last-modified-by (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
50. IRD-view-contains-Number-of-times-modified (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
51. IRD-view-contains-Read-key (Mod 3)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type User-tab-auth-contains-permissions (II.A.314).

- 52. IRD-view-contains-Write-key (Mod 3)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type User-tab-auth-contains-permissions (II.A.314).
- 53. IRDS-user-contains-Added-by (Mod 1)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- 54. IRDS-user-contains-API-permission (Mod 6)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- 55. IRDS-user-contains-Command-language-permission (Mod 3)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDM-user-contains-role (II.A.312).
- 56. IRDS-user-contains-IRD-administrator-permission (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- 57. IRDS-user-contains-IRD-rename-permission (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- 58. IRDS-user-contains-IRD-schema-administration-permission (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- 59. IRDS-user-contains-IRD-schema-rename-permission (Mod 3)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
- 60. IRDS-user-contains-Last-modified-by (Mod 1)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDM-user-contains-date-granted (II.A.310).
- 61. IRDS-user-contains-Number-of-times-modified (Mod 1)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

62. IRDS-user-contains-Panel-permission (Mod 3)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

63. Module-contains-Added-by (Mod 2)

meta-relationship

SIMILAR: This is similar to the CDM meta-relationship-type CDM-generated-mod-contains-generated-by (II.A.46).

64. Module-contains-Classification (Mod 2)

meta-relationship

SAME: This is much the same as the CDM meta-relationship-type CDM-generated-mod-contains-module-type (II.A.50).

65. Module-contains-Comments (Mod 2)

meta-relationship,

SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131). Software-module-contains-mod-abstract (II.A>277)

66. Module-contains-Description (Mod 2)

meta-relationship

SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131). meta-relationship, Software-module-contains-mod-abstract (II.A>277)

67. Module-contains-External-security (Mod 2)

meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

68. Module-contains-Last-modified-by (Mod 2)

meta-relationship

- DIFFERENT: This does not compare to a feature in the CDM.
69. Module-contains-location (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDMP-generated-mod-contains-host-id (II.A.48) and CDM relationship-type Log-unit-work-is-distributed-to-RP-main (I.B.87)
70. Module-contains-Number-of-lines-of-code (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
71. Module-contains-Number-of-times-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
72. Program-contains-Added-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
73. Program-contains-Classification (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-type CDMP-generated-module-contains-module-type (II.A.50).
74. Program-contains-Comments (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131).Software-module-contains-mod-abstract (II.A.277)
75. Program-contains-Description (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-

- contains-desc-type (II.A.131). Software-module-contains-mod-abstract (II.A.277)
76. Program-contains-External-security (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
77. Program-contains-Last-modified-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
78. Program-contains-Location (Mod 2)
meta-relationship
SIMILAR: This is similar to the CDM meta-relationship-type CDMP-generated-mod-contains-host-id (II.A.48).
79. Program-contains-Number-of-lines-of-code (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
80. Program-contains-Number-of-times-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
81. Record-contains-Added-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
82. Record-contains-Classification (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
83. Record-contains-Comments (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131).
84. Record-contains-Description (Mod 2)
meta-relationship
SAME: This is much the same as the CDM meta-relationship-types Description-text-contains-desc-text

- (II.A.126), Description-text-contains-desc-type (II.A.127), Description-text-contains-line-no (II.A.128), Description-text-contains-object-no (II.A.129), Description-text-contains-object-type (II.A.130), Description-type-contains-desc-type (II.A.131).
85. Record-contains-External-security (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
86. Record-contains-Last-modified-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
87. Record-contains-Number-of-times-modified (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
88. Record-contains-Record-category (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
89. System-contains-Added-by (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
90. System-contains-Classification (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
91. System-contains-Comments (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
92. System-contains-Description (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
93. System-contains-External-security (Mod 2)
meta-relationship
DIFFERENT: This does not compare to a feature in the CDM.
94. System-contains-Last-modified-by (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

95. System-contains-Location (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

96. System-contains-Number-of-times-modified (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

97. System-contains-System-category (Mod 2)
meta-relationship

DIFFERENT: This does not compare to a feature in the CDM.

98. User-contains-Added-by (Mod 2)
meta-relationship

99. User-contains-Classification (Mod 2)
meta-relationship

100. User-contains-Comments (Mod 2)
meta-relationship

101. User-contains-Description (Mod 2)
meta-relationship

102. User-contains-External-security (Mod 2)
meta-relationship

103. User-contains-Last-modified-by (Mod 2)
meta-relationship

104. User-contains-Location (Mod 2)
meta-relationship

105. User-contains-Number-of-times-modified (Mod 2)
meta-relationship

- F. Entity-type-uses-variation-names-data (Mod 1)
a Meta-Relationship-Type

- G. IRD-partition-greater-than-IRD-partition (Mod 4)
a Meta-Relationship-Type

- H. IRD-schema-structure-has-subset-IRD-schema-structure
(Mod 4)
a Meta-Relationship-Type

- I. IRD-schema-structure-set-of-entity-type (Mod 4)
a Meta-Relationship-Type

- J. IRD-schema-structure-set-of-relationship-type (Mod 4)
a Meta-Relationship-Type

- K. Relationship-type-connects-entity-type (Mod 1)
a Meta-Relationship-Type

1. \$\$X-secured-by-access-controller-connects-\$\$X (Mod 3)
a meta-relationship
2. \$\$X-secured-by-access-controller-connects-access-controller (Mod 3)
a meta-relationship
3. Document-contains-document-connects-document (Mod 2)
meta-relationship
4. Document-contains-element-connects-document (Mod 2)
meta-relationship
5. Document-contains-element-connects-element (Mod 2)
meta-relationship
6. Document-contains-record-connects-document (Mod 2)
meta-relationship
7. Document-contains-record-connects-record (Mod 2)
meta-relationship
8. Document-derived-from-document-connects-document (Mod 2)
meta-relationship
9. Document-derived-from-file-connects-document (Mod 2)
meta-relationship
10. Document-derived-from-file-connects-file (Mod 2)
meta-relationship
11. Document-derived-from-record-connects-document (Mod 2)
meta-relationship
12. Document-derived-from-record-connects-record (Mod 2)
meta-relationship
13. Element-contains-element-connects-element (Mod 2)
meta-relationship
14. Element-derived-from-document-connects-document (Mod 2)
meta-relationship
15. Element-derived-from-document-connects-element (Mod 2)
meta-relationship
16. Element-derived-from-element-connects-element (Mod 2)
meta-relationship
17. Element-derived-from-file-connects-element (Mod 2)
meta-relationship
18. Element-derived-from-file-connects-file (Mod 2)
meta-relationship
19. Element-derived-from-record-connects-element (Mod 2)
meta-relationship

20. Element-derived-from-record-connects-record (Mod 2)
meta-relationship
21. Element-standard-for-element-connects-element (Mod 2)
meta-relationship
22. File-contains-document-connects-document (Mod 2)
meta-relationship
23. File-contains-document-connects-file (Mod 2)
meta-relationship
24. File-contains-element-connects-element (Mod 2)
meta-relationship
25. File-contains-element-connects-file (Mod 2)
meta-relationship
26. File-contains-file-connects-file (Mod 2)
meta-relationship
27. File-contains-record-connects-file (Mod 2)
meta-relationship
28. File-contains-record-connects-record (Mod 2)
meta-relationship
29. File-derived-from-document-connects-document (Mod 2)
meta-relationship
30. File-derived-from-document-connects-file (Mod 2)
meta-relationship
31. File-derived-from-file-connects-file (Mod 2)
meta-relationship
32. File-has-access-key-element-connects-access-key-
element (Mod 2)
meta-relationship
33. File-has-access-key-element-connects-file (Mod 2)
meta-relationship
34. File-has-sort-key-element-connects-file (Mod 2)
meta-relationship
35. File-has-sort-key-element-connects-sort-key-element
(Mod 2)
meta-relationship
36. IRDS-user-has-IRD-schema-view-connects-IRD-schema-
view (Mod 1)
meta-relationship
37. IRDS-user-has-IRD-schema-view-connects-IRDS-user
(Mod 1)
meta-relationship
38. IRDS-user-has-IRD-view-connects-IRD-view (Mod 1)
meta-relationship
39. IRDS-user-has-IRD-view-connects-IRDS-user (Mod 1)

- meta-relationship
- 40. Module-calls-module-connects-module (Mod 2)
meta-relationship
- 41. Module-contains-module-connects-module (Mod 2)
meta-relationship
- 42. Module-goes-to-module-connects-module (Mod 2)
meta-relationship
- 43. Module-processes-document-connects-document (Mod 2)
meta-relationship
- 44. Module-processes-document-connects-module (Mod 2)
meta-relationship
- 45. Module-processes-element-connects-element (Mod 2)
meta-relationship
- 46. Module-processes-element-connects-module (Mod 2)
meta-relationship
- 47. Module-processes-file-connects-file (Mod 2)
meta-relationship
- 48. Module-processes-file-connects-module (Mod 2)
meta-relationship
- 49. Module-processes-record-connects-module (Mod 2)
meta-relationship
- 50. Module-processes-record-connects-record (Mod 2)
meta-relationship
- 51. Program-calls-module-connects-module (Mod 2)
meta-relationship
- 52. Program-calls-module-connects-program (Mod 2)
meta-relationship
- 53. Program-calls-program-connects-program (Mod 2)
meta-relationship
- 54. Program-contains-module-connects-module (Mod 2)
meta-relationship
- 55. Program-contains-module-connects-program (Mod 2)
meta-relationship
- 56. Program-contains-program-connects-program (Mod 2)
meta-relationship
- 57. Program-goes-to-program-connects-program (Mod 2)
meta-relationship
- 58. Program-processes-document-connects-document (Mod 2)
meta-relationship
- 59. Program-processes-document-connects-program (Mod 2)
meta-relationship
- 60. Program-processes-element-connects-element (Mod 2)
meta-relationship

61. Program-processes-element-connects-program (Mod 2)
meta-relationship
62. Program-processes-file-connects-file (Mod 2)
meta-relationship
63. Program-processes-file-connects-program (Mod 2)
meta-relationship
64. Program-processes-record-connects-program (Mod 2)
meta-relationship
65. Program-processes-record-connects-record (Mod 2)
meta-relationship
66. Record-contains-element-connects-element (Mod 2)
meta-relationship
67. Record-contains-element-connects-record (Mod 2)
meta-relationship
68. Record-contains-record-connects-record (Mod 2)
meta-relationship
69. Record-derived-from-document-connects-document (Mod 2)
meta-relationship
70. Record-derived-from-document-connects-record (Mod 2)
meta-relationship
71. Record-derived-from-file-connects-file (Mod 2)
meta-relationship
72. Record-derived-from-file-connects-record (Mod 2)
meta-relationship
73. Record-derived-from-record-connects-record (Mod 2)
meta-relationship
74. System-contains-module-connects-module (Mod 2)
meta-relationship
75. System-contains-module-connects-system (Mod 2)
meta-relationship
76. System-contains-program-connects-program (Mod 2)
meta-relationship
77. System-contains-program-connects-system (Mod 2)
meta-relationship
78. System-contains-system-connects-system (Mod 2)
meta-relationship
79. System-goes-to-system-connects-system (Mod 2)
meta-relationship
80. System-processes-document-connects-document (Mod 2)
meta-relationship
81. System-processes-document-connects-system (Mod 2)
meta-relationship

- 82. System-processes-element-connects-element (Mod 2)
meta-relationship
- 83. System-processes-element-connects-system (Mod 2)
meta-relationship
- 84. System-processes-file-connects-file (Mod 2)
meta-relationship
- 85. System-processes-file-connects-system (Mod 2)
meta-relationship
- 86. System-processes-record-connects-record (Mod 2)
meta-relationship
- 87. System-processes-record-connects-system (Mod 2)
meta-relationship
- 88. User-processes-document-connects-document (Mod 2)
meta-relationship
- 89. User-processes-document-connects-user (Mod 2)
meta-relationship
- 90. User-processes-element-connects-element (Mod 2)
meta-relationship
- 91. User-processes-element-connects-user (Mod 2)
meta-relationship
- 92. User-processes-file-connects-file (Mod 2)
meta-relationship
- 93. User-processes-file-connects-user (Mod 2)
meta-relationship
- 94. User-processes-record-connects-record (Mod 2)
meta-relationship
- 95. User-processes-record-connects-user (Mod 2)
meta-relationship
- 96. User-responsible-for-document-connects-document (Mod 2)
meta-relationship
- 97. User-responsible-for-document-connects-user (Mod 2)
meta-relationship
- 98. User-responsible-for-element-connects-element (Mod 2)
meta-relationship
- 99. User-responsible-for-element-connects-user (Mod 2)
meta-relationship
- 100. User-responsible-for-file-connects-file (Mod 2)
meta-relationship
- 101. User-responsible-for-file-connects-user (Mod 2)
meta-relationship
- 102. User-responsible-for-module-connects-module (Mod 2)
meta-relationship

- 103. User-responsible-for-module-connects-user (Mod 2)
meta-relationship
- 104. User-responsible-for-program-connects-program (Mod 2)
meta-relationship
- 105. User-responsible-for-program-connects-user (Mod 2)
meta-relationship
- 106. User-responsible-for-record-connects-record (Mod 2)
meta-relationship
- 107. User-responsible-for-record-connects-user (Mod 2)
meta-relationship
- 108. User-responsible-for-system-connects-system (Mod 2)
meta-relationship
- 109. User-responsible-for-system-connects-user (Mod 2)
meta-relationship
- 110. User-runs-module-connects-module (Mod 2)
meta-relationship
- 111. User-runs-module-connects-user (Mod 2)
meta-relationship
- 112. User-runs-program-connects-program (Mod 2)
meta-relationship
- 113. User-runs-program-connects-user (Mod 2)
meta-relationship
- 114. User-runs-system-connects-system (Mod 2)
meta-relationship
- 115. User-runs-system-connects-user (Mod 2)
meta-relationship
- L Relationship-type-contains-attribute-group-type (Mod 1)
 - a Meta-Relationship-Type
- M Relationship-type-contains-attribute-type (Mod 1)
 - a Meta-Relationship-Type
 - 1. IRDS-user-has-IRD-schema-view-contains-Default-view (Mod 1)
meta-relationship
 - 2. IRDS-user-has-IRD-view-contains-Default-view (Mod 1)
meta-relationship
 - 3. Module-processes-document-contains-Frequency (Mod 2)
meta-relationship
 - 4. Module-processes-element-contains-Frequency (Mod 2)
meta-relationship
 - 5. Module-processes-file-contains-Access-method (Mod 2)
meta-relationship
 - 6. Module-processes-file-contains-Frequency (Mod 2)
meta-relationship

7. Module-processes-record-contains-Frequency (Mod 2)
meta-relationship
8. Program-processes-document-contains-Frequency (Mod 2)
meta-relationship
9. Program-processes-element-contains-Frequency (Mod 2)
meta-relationship
10. Program-processes-file-contains-Access-method (Mod 2)
meta-relationship
11. Program-processes-file-contains-Frequency (Mod 2)
meta-relationship
12. Program-processes-record-contains-Frequency (Mod 2)
meta-relationship
13. Record-contains-element-contains-Relative-position (Mod 2)
meta-relationship
14. System-processes-document-contains-Frequency (Mod 2)
meta-relationship
15. System-processes-element-contains-Frequency (Mod 2)
meta-relationship
16. System-processes-file-contains-Access-method (Mod 2)
meta-relationship
17. System-processes-file-contains-Frequency (Mod 2)
meta-relationship
18. System-processes-record-contains-Frequency (Mod 2)
meta-relationship
19. User-processes-document-contains-Frequency (Mod 2)
meta-relationship
20. User-processes-element-contains-Frequency (Mod 2)
meta-relationship
21. User-processes-file-contains-Frequency (Mod 2)
meta-relationship
22. User-processes-record-contains-Frequency (Mod 2)
meta-relationship
23. User-runs-module-contains-Frequency (Mod 2)
meta-relationship
24. User-runs-program-contains-Frequency (Mod 2)
meta-relationship
25. User-runs-system-contains-Frequency (Mod 2)
meta-relationship
- N Relationship-type-member-of-relationship-class-type (Mod 1)
 - a Meta-Relationship-Type

1. \$\$X-secured-by-access-controller-member-of-secured-by
(Mod 3)
a meta-relationship
2. Document-contains-Documant-member-of-contains (Mod
2)
meta-relationship
3. Document-contains-Element-member-of-contains (Mod 2)
meta-relationship
4. Document-contains-Record-member-of-contains (Mod 2)
meta-relationship
5. Document-derived-from-Documant-member-of-derived-
from (Mod 2)
meta-relationship
6. Document-derived-from-File-member-of-derived-from
(Mod 2)
meta-relationship
7. Document-derived-from-Record-member-of-derived-from
(Mod 2)
meta-relationship
8. Element-contains-Element-member-of-contains (Mod 2)
meta-relationship
9. Element-derived-from-Documant-member-of-derived-
from (Mod 2)
meta-relationship
10. Element-derived-from-Element-member-of-derived-from
(Mod 2)
meta-relationship
11. Element-derived-from-File-member-of-derived-from
(Mod 2)
meta-relationship
12. Element-derived-from-Record-member-of-derived-from
(Mod 2)
meta-relationship
13. File-contains-Documant-member-of-contains (Mod 2)
meta-relationship
14. File-contains-Element-member-of-contains (Mod 2)
meta-relationship
15. File-contains-File-member-of-contains (Mod 2)
meta-relationship
16. File-contains-Record-member-of-contains (Mod 2)
meta-relationship
17. File-derived-from-Documant-member-of-derived-from
(Mod 2)

- meta-relationship
- 18. File-derived-from-File-member-of-derived-from (Mod 2)
meta-relationship
- 19. IRDS-user-has-IRD-schema-view-member-of-Has (Mod 1)
meta-relationship
- 20. IRDS-user-has-IRD-view-member-of-Has (Mod 1)
meta-relationship
- 21. Module-calls-Module-member-of-calls (Mod 2)
meta-relationship
- 22. Module-contains-Module-member-of-contains (Mod 2)
meta-relationship
- 23. Module-goes-to-Module-member-of-goes-to (Mod 2)
meta-relationship
- 24. Module-processes-Document-member-of-processes (Mod 2)
meta-relationship
- 25. Module-processes-Element-member-of-processes (Mod 2)
meta-relationship
- 26. Module-processes-File-member-of-processes (Mod 2)
meta-relationship
- 27. Module-processes-Record-member-of-processes (Mod 2)
meta-relationship
- 28. Program-calls-Module-member-of-calls (Mod 2)
meta-relationship
- 29. Program-calls-Program-member-of-calls (Mod 2)
meta-relationship
- 30. Program-contains-Module-member-of-contains (Mod 2)
meta-relationship
- 31. Program-contains-Program-member-of-contains (Mod 2)
meta-relationship
- 32. Program-goes-to-Program-member-of-goes-to (Mod 2)
meta-relationship
- 33. Program-processes-Document-member-of-processes (Mod 2)
meta-relationship
- 34. Program-processes-Element-member-of-processes (Mod 2)
meta-relationship
- 35. Program-processes-File-member-of-processes (Mod 2)
meta-relationship
- 36. Program-processes-Record-member-of-processes (Mod 2)
meta-relationship
- 37. Record-contains-Element-member-of-contains (Mod 2)

- meta-relationship
- 38. Record-contains-Record-member-of-contains (Mod 2)
meta-relationship
- 39. Record-derived-from-Document-member-of-derived-from
(Mod 2)
meta-relationship
- 40. Record-derived-from-File-member-of-derived-from (Mod
2)
meta-relationship
- 41. Record-derived-from-Record-member-of-derived-from
(Mod 2)
meta-relationship
- 42. System-contains-Module-member-of-contains (Mod 2)
meta-relationship
- 43. System-contains-Program-member-of-contains (Mod 2)
meta-relationship
- 44. System-contains-System-member-of-contains (Mod 2)
meta-relationship
- 45. System-goes-to-System-member-of-goes-to (Mod 2)
meta-relationship
- 46. System-processes-Document-member-of-processes (Mod
2)
meta-relationship
- 47. System-processes-Element-member-of-processes (Mod 2)
meta-relationship
- 48. System-processes-File-member-of-processes (Mod 2)
meta-relationship
- 49. System-processes-Record-member-of-processes (Mod 2)
meta-relationship
- 50. User-processes-Document-member-of-processes (Mod 2)
meta-relationship
- 51. User-processes-Element-member-of-processes (Mod 2)
meta-relationship
- 52. User-processes-File-member-of-processes (Mod 2)
meta-relationship
- 53. User-processes-Record-member-of-processes (Mod 2)
meta-relationship
- 54. User-responsible-for-Document-member-of-responsible-
for (Mod 2)
meta-relationship
- 55. User-responsible-for-Element-member-of-responsible-
for (Mod 2)
meta-relationship

- 56. User-responsible-for-File-member-of-responsible-for
(Mod 2)
meta-relationship
- 57. User-responsible-for-Module-member-of-responsible-for
(Mod 2)
meta-relationship
- 58. User-responsible-for-Program-member-of-responsible-
for (Mod 2)
meta-relationship
- 59. User-responsible-for-Record-member-of-responsible-for
(Mod 2)
meta-relationship
- 60. User-responsible-for-System-member-of-responsible-for
(Mod 2)
meta-relationship
- 61. User-runs-Module-member-of-runs (Mod 2)
meta-relationship
- 62. User-runs-Program-member-of-runs (Mod 2)
meta-relationship
- 63. User-runs-System-member-of-runs (Mod 2)
meta-relationship

III. Meta-Attribute-Types (Mod 1)

"In an IRDS, at schema description level, a property of a meta-entity-type or a meta-relationship-type."

- A. Added-by (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- B. Common-to-entity-types (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- C. Connectable (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- D. Decoded-value (Mod 1)
 - a Meta-Attribute-Type for meta-attribute-groups
- E. Description-of-rules (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- F. Encoded-value (Mod 1)
 - a Meta-Attribute-Type for meta-attribute-groups
- G. Entity-class (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- H. Format (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- I. Group-position (Mod 1)
 - a Meta-Attribute-Type for meta-relationships
- J. High-value (Mod 1)
 - a Meta-Attribute-Type for meta-attribute-groups
- K. Implementation-lock (Mod 1)
 - a Meta-Attribute-Type for meta-entities & for meta-relationships
- L. Integer-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- M. Inverse-name (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- N. Last-modified-by (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- O. Life-cycle-phase-class (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- P. Line-count-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- Q. Line-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- R. Low-value (Mod 1)
 - a Meta-Attribute-Type for meta-attribute-groups
- S. Maximum-attribute-length (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- T. Maximum-entity-assigned-access-name-length (Mod 1)

- a Meta-Attribute-Type for meta-entities
- U. maximum-entity-assigned-access-name-length-default (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- V. maximum-entity-assigned-access-name-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- W. maximum-entity-assigned-descriptive-name-length (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- X. maximum-entity-assigned-descriptive-name-length-default (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- Y. maximum-entity-assigned-descriptive-name-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- Z. maximum-meta-entity-assigned-access-name-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AA. maximum-meta-entity-assigned-descriptive-name-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AB. Maximum-number-of-occurrences (Mod 1)
 - a Meta-Attribute-Type for meta-relationships
- AC. maximum-number-of-occurrences-default (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AD. maximum-number-of-occurrences-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AE. Meta-entity-substitute-name (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AF. Minimum-attribute-length (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AG. Minimum-entity-assigned-access-name-length (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AH. Minimum-entity-assigned-access-name-length default (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AI. Minimum-entity-assigned-descriptive-name-length (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AJ. Minimum-entity-assigned-descriptive-name-length-default (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AK. Number-of-instances (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AL. Number-of-times-modified (Mod 1)

- a Meta-Attribute-Type for meta-entities
- AM. Origin (Mod 1)
 - a Meta-Attribute-Type for meta-entities & for meta-relationships
- AN. Picture (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AO. Position (Mod 1)
 - a Meta-Attribute-Type for meta-relationships
- AP. Purpose (Mod 1)
 - a Meta-Attribute-Type for meta-entities & for meta-relationships
- AQ. Reserved-entity-name (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AR. Reserved-meta-entity-name (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AS. Sequence-parameter (Mod 1)
 - a Meta-Attribute-Type for meta-relationships
- AT. Sequenced (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AU. Significant-attributes (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AV. Singular (Mod 1)
 - a Meta-Attribute-Type for meta-relationships
- AW. Standard-mode (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AX. Start-name (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AY. String-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- AZ. System-date (Mod 1)
 - a Meta-Attribute-Type for meta-attribute-groups
- BA. System-Generated (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- BB. System-lock (Mod 1)
 - a Meta-Attribute-Type for meta-entities & for meta-relationships
- BC. System-maintained (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- BD. System-time (Mod 1)
 - a Meta-Attribute-Type for meta-attribute-groups
- BE. Text-in-groups-allowed (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- BF. Validation-type (Mod 1)

- a Meta-Attribute-Type for meta-entities
- BG. Variation (Mod 1)
 - a Meta-Attribute-Type for meta-entities
- BH. Variation-length-limit (Mod 1)
 - a Meta-Attribute-Type for meta-entities

IV. Meta-Attribute-Group-Types (Mod 1)

"In an IRDS, at schema description level, an ordered set of two or more meta-attribute-types used together, e.g., date and time-of-day."

- A. Data-range (Mod 1)
 - a Meta-Attribute-Group-Type
- B. Data-value (Mod 1)
 - a Meta-Attribute-Group-Type
- C. Date-time-added (Mod 1)
 - a Meta-Attribute-Group-Type
- D. Date-time-last-modified (Mod 1)
 - a Meta-Attribute-Group-Type

V. Meta-Relationship-Class-Types (Mod 1)

"In an IRD, at schema description level, a label for a set of meta-relationship-types."

- A. Connects (Mod 1)
 - a Meta-Relationship-Class-Type
- B. Contains (Mod 1)
 - a Meta-Relationship-Class-Type
- C. Member-of (Mod 1)
 - a Meta-Relationship-Class-Type
- D. Uses (Mod 1)
 - a Meta-Relationship-Class-Type

APPENDIX G

CDM STRUCTURE

(CDM SCHEMA DEFINITION, CDM1, CDM, "REAL WORLD")

This appendix outlines the structure of the CDM model and references the corresponding feature in the IRDS model. The descriptions for each of the outline components uses the following terminology:

- "SAME" which implies a good relationship between the CDM & IRDS
- "SIMILAR" which implies that the IRDS does not have many of the features of the item.
- "DIFFERENT" which implies that there is not any correspondence for the CDM item in the IRDS.

The references in the parentheses are to the IRDS structure - Appendix F.

Points of Comparison	Same	Similar	Different
959	359	171	429

A. Entity-Types

1. Application-impact /?
SIMILAR: This is similar to a combination of the IRDS meta-entities from module 2: Module-processes-record, Program-processes-record, User-processes-record, User-runs-module, and User-runs-program. It is a transient table.
(1.N.31, 40, 57, 65, & 66)
2. Attribute-class /2
SAME: This along with Data-type is much the same as the IRDS meta-entity from module 2: Element.
(1.E.3)
3. Attribute-class-keyword /153
SAME: This is much the same as the IRDS meta-entity from module 2: Classification.
(1.B.10)
4. Attribute-use-class /5
SAME: This along with Inherited-Attribute-Use is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(1.N.41)
5. Attribute-use-class-constraint /216
DIFFERENT: This is is not represented in the IRDS. The IRDS is limited to range and value validation.
6. Attribute-use-class-internal-schema-mapping /147
DIFFERENT: The IRDS does not have a correspondence to this meta entity-type which deals with mappings.
7. Attribute-use-class-parameter /105
DIFFERENT: The IRDS does not have a correspondence to this meta-entity-type which deals with mappings.
8. Attribute-use-class-ST-mapping /135
DIFFERENT: The IRDS does not have a correspondence to this meta-entity-type which deals with mappings.
9. Category-member /406
SIMILAR: This is similar to the IRDS meta-entity from module 2: Record-contains-record.
(1.N.42)
10. Category-relation /404
SIMILAR: This is similar to the IRDS meta-entity from module 2: Record-contains-record.
(1.N.42)
11. CDMP-generated-module /293

SIMILAR: This is similar to the IRDS meta-entity from module 2: Classification.
(I.B.10)

12. Commands /?

DIFFERENT: This is a transient table and it does not correspond to the IRDS.

13. Complete-relation /143

DIFFERENT: This does not compare to a feature in the IRDS. The IRDS does not identify key structuring in validating of a relationship.

14. Component-data-field /9

SAME: This is much the same as the IRDS meta-entity from module 2:Element-contains-element.
(1.N.8)

15. Constraint-input /221

DIFFERENT: This does not compare to a feature in the IRDS.

16. Constant-parameter /117

DIFFERENT: This does not compare to a feature in the IRDS. This deals with complex mappings.

17. Data-base /24

SIMILAR: This is similar to the IRDS meta-entity from module 2: File.
(1.E.4)

18. Data-base-area /102

SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-file.
(1.N.16)

19. Data-base-area-assignment /103

SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-record.
(1.N.17)

20. Data-base-password /25

DIFFERENT: This does not compare to a feature in the IRDS.

21. Data-field /67

SAME This is much the same as the IRDS meta-entity from module 2:Element.
(1.E.3)

22. Data-field-filler /38

SAME This is much the same as the IRDS meta-entity from module 2:Element.
(1.E.3)

23. Data-field-parameter /118
DIFFERENT: This does not compare to a feature in the IRDS. It deals with complex mapping algorithms.
24. Data-field-redefinition /106
SAME: This is much the same as the IRDS meta-entity from module 2:Element-contains-element.
(1.N.8)
25. Data-field-set-linkage /41
SAME: This is much the same as the IRDS meta-entity from module 2:Record-derived-from-record.
(1.N.45).
There is also some similarity to the IRDS meta-entity from module 2:Record-contains-record.
(1.N.42)
26. Data-field-usage /300
SAME: This is much the same as the IRDS meta-entity from module 2:Module-processes-element.
(1.N.29)
27. Data-item /16
SAME: This is much the same as the IRDS meta-entity from module 2:Element.
(1.E.3)
Data-type + {Data-item, Data-field, attribute-class} = Element
28. Data-item-parameter /17
DIFFERENT: This does not compare to a feature in the IRDS. It deals with complex mapping algorithms.
29. Data-item-usage /281
SAME: This is much the same as the IRDS meta-entity from module 2:Module-processes-element.
(1.N.29)
30. Data-type /93
SAME: This is much the same as the IRDS meta-entity from module 2:Element.
(1.E.3)
Data-type + {Data-item, Data-field, attribute-class} = Element
31. DBMS-on-host /20
DIFFERENT: This does not compare to a feature in the IRDS.
32. Description-text /175
SAME: This is much the same as the IRDS meta-entity from module 2:Description

- (1.B.19)
33. Description-type /40
DIFFERENT: This does not compare to a feature in the IRDS..
34. Distributed-rules/
DIFFERENT: This does not compare to a feature in the IRDS..
35. Domain-class /94
DIFFERENT: This does not compare to a feature in the IRDS..
36. Domain-range /242
SAME: This is much the same as the IRDS meta-entity from module 1:Range-validation.
(1.D.1)
37. Domain-value /241
SAME: This is much the same as the IRDS meta-entity from module 1:Value-validation.
(1.D.2)
38. Elementary-data-field /119
SAME: This is much the same as the IRDS meta-entity from module 2:Element.
(1.E.3)
The IRDS Element does not identify those elements that are not decomposed.
39. Entity-class /1
SAME: This is much the same as the IRDS meta-entity-type from module 1: Entity-type for the CDM1.
(1.E)
This is much the same as the IRDS meta-entity from module 1: Record for the CDM.
(1.E.13)
40. Entity-class-constraint /215
DIFFERENT: This does not compare to a feature in the IRDS
41. Entity-class-keyword /152
SAME: This is much the same as the IRDS meta-entity from module 2: Classification.
(1.B.10)
42. Entity-class-record-type-join /?
DIFFERENT: This does not compare to a feature in the IRDS
43. Entity-class-record-type-mapping /

- DIFFERENT: This does not compare to a feature in the IRDS.
44. Entity-class-record-type-union-discriminator /60
DIFFERENT: This does not compare to a feature in the IRDS.
45. Entity-name /142
SAME: This is much the same as the IRDS meta-entity from module 2: Identification-names.
(1.A.5)
46. External-schema-usage /282
This entity is a physical implementation of View-usage and Data-item-usage in the CDM.
47. Horizontal-part /163
DIFFERENT: This does not compare to a feature in the IRDS.
48. IISS-DBMS /23
DIFFERENT: This does not compare to a feature in the IRDS.
49. IISS-host /21
DIFFERENT: This does not compare to a feature in the IRDS.
50. IISS-keyword /149
SAME: This is much the same as the IRDS meta-entity from module 2: Classification.
(1.B.10)
It is a supertype of other keywords.
51. IISS_PSB /77
SIMILAR: This is similar to the IRDS meta-entities from module 2: Program-processes-file and Program-processes-record.
(1.N.39 & 1.N.40)
52. Index-data-field /83
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-has-access-key-element.
(1.N.20)
53. Inherited-Attribute-Use /7
SAME: This is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(1.N.41)
54. Key-class /3
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-has-access-key-element.
(1.N.20)

- 55. Key-class-member /6
SIMILAR: This is similar to the IRDS meta-entity from module 2: Element-contains-element.
(1.N.8)
- 56. Link-relation /4
SIMILAR: This is similar to the IRDS meta-entity from module 2: Record-contains-record.
(1.N.42)
- 57. Log-unit-work /291
SAME: This is much the same as the IRDS meta-entity from module 2: Program.
(1.E.12)
- 58. Model-class /155
SIMILAR: This is similar to the IRDS meta-entity from module 2: File.
(1.E.4)
- 59. Module-parameter /59
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-processes-element.
(1.N.29)
- 60. NDML-module /292
SAME: This is much the same as the IRDS meta-entity from module 2: Module.
(1.E.10)
- 61. Object-com-trace /?
DIFFERENT: This does not compare to a feature in the IRDS. It is a transient table used by impact analysis.
- 62. Owned-attribute /140
SAME: This is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(1.N.41)
- 63. Project-data-field /108
DIFFERENT: This does not compare to a feature in the IRDS.
- 64. Project-data-item /64
DIFFERENT: This does not compare to a feature in the IRDS.
- 65. PSB-PCB /78
SIMILAR: This is similar to the IRDS meta-entity from module 2: Program-processes-file.
(1.N.39)
- 66. Record-set /72

- SIMILAR: This is similar to the IRDS meta-entity from module 2: Record-contains-record.
(1.N.42)
67. Record-set-usage /299
SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-record.
(1.N.31)
68. Record-type /66
SAME: This is much the same as the IRDS meta-entity from module 2: Record-derived-from-file.
(1.N.44)
69. Record-type-parameter /63
DIFFERENT: This does not compare to a feature in the IRDS.
70. Relation-class /400
SAME: This is much the same as the IRDS meta-entity-type from module 1: Relationship-type.
(1.N)
71. Relation-class-based-record-set /109
DIFFERENT: This does not compare to a feature in the IRDS.
72. Relation-class-keyword /154
SAME: This is much the same as the IRDS meta-entity from module 2: Classification.
(1.B.10)
73. Repeating-data-field-occurrence-counter /1307
SAME: This is much the same as the IRDS meta-attribute-type from module 1: Maximum-number-of-occurrence-counter.
(III.AB)
74. Request-processor-main /298
SAME: This is much the same as the IRDS meta-entity from module 2: Program.
(1.E.12)
75. Request-processor-subroutine /295
SAME: This is much the same as the IRDS meta-entity from module 2: Module.
(1.E.10)
76. Schema-names /14
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-file.
(1.N.16)
77. Set-type-member /134

SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-record.
(1.N.17)

78. Software-module /57

SAME: This is much the same as the IRDS meta-entity from module 2: Module.
(1.E.10)

79. User-defined-data-type /95

SAME: This is much the same as the IRDS meta-entity from module 2: Element.
(1.E.3)

80. User-view /15

SAME: This is much the same as the IRDS meta-entity from module 2: Record.
(1.E.13)

81. Verify-module /243

SAME: This is much the same as the IRDS meta-entity from module 2: Module.
(1.E.10).

SIMILAR: Also, this is similar to the IRDS meta-entity-type from module 1: Attribute-type-validation-procedure.
(1.D)

82. View-entity-class-Xref /

DIFFERENT: This does not compare to a feature in the IRDS.

83. View-qualify-criteria /

DIFFERENT: This does not compare to a feature in the IRDS.

84. View-qualify-Xref /

DIFFERENT: This does not compare to a feature in the IRDS.

85. View-usage /280

SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-record.
(1.E.31)

86. CDM

87. CDM-user

88. User-tab-auth

B. Relationship-Types

1. Attribute-class-is-assigned-to-owned-attribute

SIMILAR: This is similar to the IRDS meta-entity from module 2: Element-derived-from-record
(1.N.12)

2. Attribute-class-is-identified-by-attribute-name
SAME: This is much the same as the IRDS access-name from module 1: .
3. Attribute-class-is-recognized-by-AC-keyword
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-classification.
(II.E.14)
4. Attribute-use-class-appears-as-project-data-item
DIFFERENT: This does not compare to a feature in the IRDS.
5. Attribute-use-class-appears-in-AUC-constraint
DIFFERENT: This does not compare to a feature in the IRDS.
6. Attribute-use-class-is-a inherited-attribute-use
SIMILAR: This is similar to the IRDS meta-entity from module 2: Element-derived-from-record.
(1.N.12)
7. Attribute-use-class-maps-to-internal-schema-via- AUC-IS-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
8. Attribute-use-class-maps-via-AUC-parameter
DIFFERENT: This does not compare to a feature in the IRDS.
9. Attribute-use-class-may-appear-in-view-qualify-Xref
DIFFERENT: This does not compare to a feature in the IRDS.
10. Attribute-use-class-serves-as-key-class-member
SIMILAR: This is similar to the IRDS meta-entity from module 2: Element-contains-element.
(1.N.8)
11. AUC-constraint-is basis-for-constraint-input
DIFFERENT: This does not compare to a feature in the IRDS
12. AUC-IS-mapping-has-many-AUC-ST-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
13. AUC-IS-mapping-has-many-project-data-field
DIFFERENT: This does not compare to a feature in the IRDS
14. Category-relation-is-subset-of-relation-class

SAME: This is much the same as the IRDS meta-entity-type from module 1: Relationship-type.
(I.N)

15. CDMP-generated-module-is-a-RP-Subroutine
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
16. Complete-relation-is-basis-for-EC-RT-join
DIFFERENT: This does not compare to a feature in the IRDS.
17. Complete-relation-is-migration-path-for-inherited-attribute-use
DIFFERENT: This does not compare to a feature in the IRDS.
18. Data-base-appears-in-RP-main
SAME: This is much the same as the IRDS meta-entity from module 2: Program-processes-file.
(I.N.39)
19. Data-base-area-is-used-in-DB-area-assignment
SAME: This is much the same as the IRDS meta-relationship from module 2: File-contains-location.
(II.E.35)
20. Data-base-is accessed-by-CDMP-generated-module
SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-file.
(I.N.30)
21. Data-base-is accessed-by-RP-subroutine
SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-file.
(I.N.30)
22. Data-base-is-composed-of-data-base-area
SAME: This is much the same as the IRDS meta-entity from module 2: File-contains-file.
(I.N.16)
23. Data-base-is-structured-by-record-type
SAME: This is much the same as the IRDS meta-entity from module 2: File-contains-record.
(I.N.17)
24. Data-base-may-be-accessed-by-schema-names
SAME: This is much the same as the IRDS meta-relationship from module 2: File-contains-identification-names.
(II.D.10)

- This is also the same as access-name.
25. Data-base-may-be-defined-in-PSB-PCB
SAME: This is much the same as the IRDS meta-entity from module 2: File-derived-from-file.
(I.N.19)
 26. Data-base-may-have-access-controlled-by-DB-password
DIFFERENT: This does not compare to a feature in the IRDS.
 27. Data-field-has-repeating-DF-occ-counter
DIFFERENT: This does not compare to a feature in the IRDS.
 28. Data-field-indexed-by-index-DF
DIFFERENT: This does not compare to a feature in the IRDS.
 29. Data-field-is-a-component-data-field
SAME: This is much the same as the IRDS meta-entity from module 2: Element-contains-element.
(I.N.8)
 30. Data-field-is-a-data-field-redefinition
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-identification-names.
(II.D.7)
 31. Data-field-is-a-elementary-data-field
DIFFERENT: This does not compare to a feature in the IRDS.
 32. Data-field-is-a-group-of-component-data-field
SAME: This is much the same as the IRDS meta-entity from module 2: Element-contains-element.
(I.N.8)
 33. Data-field-is-an-index-DF
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
 34. Data-field-is-a-repeating-DF-occ-counter
DIFFERENT: This does not compare to a feature in the IRDS.
 35. Data-field-is-accessed-by-data-field-usage
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-processes-element.
(I.N.29)
 36. Data-field-is-indexed-by-index-DF

DIFFERENT: This does not compare to a feature in the IRDS.

37. Data-field-is-redefined-by-data-field-redefinition

38. Data-field-is-used-as-ECRTUD

SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage. (II.E.28)

This is union union discriminator.

39. Data-field-maps-to-conceptual-schema-via-project-data-field

DIFFERENT: This does not compare to a feature in the IRDS.

40. Data-field-maps-via-data-field-parameter

DIFFERENT: This does not compare to a feature in the IRDS.

41. Data-field-may-appear-as-DF-set-linkage

DIFFERENT: This does not compare to a feature in the IRDS.

42. Data-field-may-be-data-field-filler

SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage. (II.E.28)

3. Data-item-is-accessed-by-data-item-usage

SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-processes-element. (1.N.29)

44. Data-item-is-accessed-by-ES-usage

SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-processes-element. (1.N.29)

45. Data-item-maps-to-conceptual-schema-via-project-data-item

DIFFERENT: This does not compare to a feature in the IRDS.

46. Data-item-maps-via-data-item-parameter

DIFFERENT: This does not compare to a feature in the IRDS.

47. Data-type-supplies-user-defined-data-type

DIFFERENT: This does not compare to a feature in the IRDS. CDM uses data-type as an attribute-class.

48. DBMS-on-host-controls-data-base

DIFFERENT: This does not compare to a feature in the IRDS.

49. Description-type-applies-to-description-text
DIFFERENT: This does not compare to a feature in the IRDS.
50. Domain-class-consists-of-domain-range
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-allowable-range.
(II.D.4)
51. Domain-class-consists-of-domain-value
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-allowable-value.
(II.E.13)
52. Domain-class-has-verify-module
DIFFERENT: This does not compare to a feature in the IRDS.
53. Domain-class-may-be-represented-with-user-defined-data-type
DIFFERENT: This does not compare to a feature in the IRDS. CDM uses data-type as an attribute-class.
54. Domain-class-supplies-values-to-attribute-class
DIFFERENT: This does not compare to a feature in the IRDS.
55. Domain-value-discriminates-for-category-member
DIFFERENT: This does not compare to a feature in the IRDS.
56. EC-constraint-involves-AUC-constraint
DIFFERENT: This does not compare to a feature in the IRDS.
57. EC-RT-mapping-involves-EC-RT-join
DIFFERENT: This does not compare to a feature in the IRDS.
58. EC-RT-mapping-is-distinguished-by-ECRTUD
DIFFERENT: This does not compare to a feature in the IRDS.
59. EC-RT-mapping-maps-via-AUC-IS-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
60. Entity-class-appears-in-EC-constraint
DIFFERENT: This does not compare to a feature in the IRDS.
61. Entity-class-contains-attribute-use-class

- SAME: This is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(I.N.41)
62. Entity-class-has-key-class
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-has-access-key-element.
(I.N.20)
63. Entity-class-is-dependent-in-link-relation
DIFFERENT: This does not compare to a feature in the IRDS.
64. Entity-class-is-generic-in-category-relation
DIFFERENT: This does not compare to a feature in the IRDS.
65. Entity-class-is-identified-by-entity-name
SAME: This is much the same as the IRDS access-name from module 1:
66. Entity-class-is-independent-in-link-relation
DIFFERENT: This does not compare to a feature in the IRDS.
67. Entity-class-is-recognized-by-EC-keyword
SAME: This is much the same as the IRDS meta-relationship from module 2: File-contains-identification-names.
(II.D.10)
68. Entity-class-is-subset-as-category-member
DIFFERENT: This does not compare to a feature in the IRDS.
69. Entity-class-maps-to-internal-schema-via-EC-RT-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
70. Entity-class-maps-to-internal-schema-via-horizontal part
DIFFERENT: This does not compare to a feature in the IRDS.
71. Entity-class-owns-owned-attribute
SAME: This is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(I.N.41)
72. Entity-class-specifies-distributed-rules
DIFFERENT: This does not compare to a feature in the IRDS.
73. IISS-DBMS-appears-on-DBMS-on-host

- DIFFERENT: This does not compare to a feature in the IRDS.
74. IISS-host-has-CDMP-generated-module
SIMILAR: This is similar to the IRDS meta-entity from module 2: System-contains-module.
(1.N.46)
75. IISS-host-has-DBMS-on-host
SIMILAR: This is similar to the IRDS meta-entity from module 2: System-contains-system.
(1.N.48)
76. IISS-host-provides-access-to-IISS-PSB
SIMILAR: This is similar to the IRDS meta-entity from module 2: System-processes-file.
(1.N.52)
77. IISS-host-stores-CDMP-generated-module
SIMILAR: This is similar to the IRDS meta-entity from module 2: System-contains-module.
(1.N.46)
78. IISS-keyword-identifies-AC-keyword
DIFFERENT: This does not compare to a feature in the IRDS.
79. IISS-keyword-identifies-EC-keyword
DIFFERENT: This does not compare to a feature in the IRDS.
80. IISS-keyword-identifies-RC-keyword
DIFFERENT: This does not compare to a feature in the IRDS.
81. IISS-PSB-consists-of-PSB-PCB
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-file.
(1.N.16)
82. Key-class-is-composed-of-key-class-member
SAME: This is much the same as the IRDS meta-entity from module 2: Element-contains-element.
(1.N.8)
83. Key-class-makes-specific-complete-relation
DIFFERENT: This does not compare to a feature in the IRDS.
84. Link-relation-is-subset-of-relation-class
DIFFERENT: This does not compare to a feature in the IRDS.
85. Log-unit-work-is-composed-of-CDMP-generated-module

- SAME: This is much the same as the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
86. Log-unit-work-is-composed-of-NDML-module
SAME: This is much the same as the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
87. Log-unit-work-is-distributed-to-RP-main
SAME: This is much the same as the IRDS meta-relationship from module 2: Module-contained-location.
(II.E.69)
88. Model-class-identifies-attribute-class
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-element.
(1.N.15)
89. Model-class-identifies-entity-class
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-element.
(1.N.15)
90. Module-parameter-is-a-AUC-parameter
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
91. Module-parameter-is-a-complex-mapping-parameter
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
92. Module-parameter-is-a-constraint-input
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
93. Module-parameter-is-a-constraint-parameter
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
94. Module-parameter-is-a-data-field-parameter
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
95. Module-parameter-is-a-data-item-parameter
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)

96. Module-parameter-is-a-relation-type-parameter
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
97. NDML-module-accesses-data-item-usage
SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-element.
(I.N.29)
98. NDML-module-accesses-ES-usage
SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-element.
(I.N.29)
99. NDML-module-deletes-ES-usage
DIFFERENT: This does not compare to a feature in the IRDS.
100. NDML-module-deletes-view-usage
DIFFERENT: This does not compare to a feature in the IRDS.
101. NDML-module-generates-CDMP generated-module
DIFFERENT: This does not compare to a feature in the IRDS.
102. Owned-attribute-appears-as-attribute-use-class
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
103. Record-set-has-set-type-member
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-file.
(I.N.16)
104. Record-set-is-accessed-by-record-set-usage
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-processes-file.
(I.N.30)
105. Record-set-maps-to-conceptual-schema-via-AUC-ST-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
106. Record-type-appears-as-set-type-member
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
107. Record-type-contains-data-field

- SAME: This is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(I.N.41)
108. Record-type-has-DB-area-assignment
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-location.
(II.E.35)
109. Record-type-is-owner-in-record-set
SAME: This is much the same as the IRDS meta-relationship from module 2: Element-contains-usage.
(II.E.28)
110. Record-type-maps-to-conceptual-schema-via-AUC-IS-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
111. Record-type-maps-to-conceptual-schema-via-EC-RT-mapping
DIFFERENT: This does not compare to a feature in the IRDS.
112. Record-type-maps-to-conceptual-schema-via-horizontal-part
DIFFERENT: This does not compare to a feature in the IRDS.
113. Record-type-maps-via-record-type-parameter
DIFFERENT: This does not compare to a feature in the IRDS.
114. Relation-class-is-made-specific-by-complete-relation
DIFFERENT: This does not compare to a feature in the IRDS.
115. Relation-class-is-recognized-by-RC-keyword
DIFFERENT: This does not compare to a feature in the IRDS.
116. Relation-class-maps-to-internal-schema-via-RC-based-record-set
DIFFERENT: This does not compare to a feature in the IRDS.
117. Set-type-member-maps-to-conceptual-schema-via-RC-based-record-set
DIFFERENT: This does not compare to a feature in the IRDS.
118. Set-type-member-may-contain-DF-set-linkage
DIFFERENT: This does not compare to a feature in the IRDS.

- 119. Software-module-accesses-data-field-usage
SAME: This is much the same as the IRDS meta-entity from module 2: Module-processes-element.
(I.N.29)
- 120. Software-module-is-a-CDMP-generated-module
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
- 121. Software-module-is-a-RP-main
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
- 122. Software-module-is-used-as-verify-module
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
- 123. Software-module-may-be-NDML-module
SIMILAR: This is similar to the IRDS meta-entity from module 2: Module-contains-module.
(I.N.26)
- 124. Software-module-navigates-via-record-set-usage
DIFFERENT: This does not compare to a feature in the IRDS.
- 125. Software-module-uses-values-supplied-via-module-parameter
DIFFERENT: This does not compare to a feature in the IRDS.
- 126. User-defined-data-type-describes-module-parameter
DIFFERENT: This does not compare to a feature in the IRDS.
- 127. User-defined-data-type-implements-data-item
SAME: This is much the same as the IRDS meta-entity from module 2: Element-contains-data-type.
(II.E.18)
- 128. User-defined-data-type-implements-elementary-data-field
SAME: This is much the same as the IRDS meta-entity from module 2: Element-contains-data-type.
(II.E.18)
- 129. User-view-contains-data-item
SAME: This is much the same as the IRDS meta-entity from module 2: Record-contains-element.
(I.N.41)

- 130. User-view-is-deleted-by-ES-usage
DIFFERENT: This does not compare to a feature in the IRDS.
 - 131. User-view-is-deleted-by-view-usage
DIFFERENT: This does not compare to a feature in the IRDS.
 - 132. User-view-is-part-of-view-EC-Xref
DIFFERENT: This does not compare to a feature in the IRDS.
 - 133. User-view-may-contain-view-qualify-criteria
DIFFERENT: This does not compare to a feature in the IRDS.
 - 134. View-EC-Xref-contains-project-data-item
DIFFERENT: This does not compare to a feature in the IRDS.
 - 135. View-EC-Xref-may-contain-view-qualify-Xref
DIFFERENT: This does not compare to a feature in the IRDS.
 - 136. CDM-has-CDM-user
- C. Attribute-Types
- 1. AC-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
 - 2. AC-name-type
DIFFERENT: This does not compare to a feature in the IRDS. The IRDS separates types of names whereas the CDM combines them.
 - 3. AC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
 - 4. App-CDM-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1. This is a temporary table in the CDM
 - 5. App-user-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1. This is a temporary table in the CDM
 - 6. Area-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
 - 7. AUC-alg-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
 - 8. AUC-mod-instance

- SIMILAR: This is similar to the IRDS VERSION-IDENTIFIER from module 1.
9. AUC-value
DIFFERENT: This does not compare to a feature in the IRDS.
10. Begin-value
SAME: This is much the same as the IRDS meta-entity from module 2: Low-of-range.
(1.B.40)
11. Case-no
SIMILAR: This is similar to the IRDS VERSION-IDENTIFIER from module 1.
12. Cat-type-code
DIFFERENT: This does not compare to a feature in the IRDS.
13. Category-RC-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
14. CDM-com-no
DIFFERENT: This does not compare to a feature in the IRDS.
15. CDM-keyword
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
16. CDM-user-id
DIFFERENT: This does not compare to a feature in the IRDS.
17. Character-null
SIMILAR: This is similar to the IRDS meta-entity from module 2: Data-class.
(1.B.14)
18. Comparison-op
DIFFERENT: This does not compare to a feature in the IRDS.
19. Component-of-DF
SAME: This is much the same as the IRDS meta-entity from module 2: Element-contains-element.
(1.N.8)
20. Const-alg-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
21. Const-mod-instance

- SIMILAR: This is similar to the IRDS VERSION-IDENTIFIER from module 1.
22. Constant-value
SAME: This is much the same as the IRDS meta-entity from module 2: Allowable-value.
(1.B.6)
23. Constraint-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
24. Creation-date
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-added.
(1.A.2)
25. Data-type-ind
DIFFERENT: This does not compare to a feature in the IRDS.
26. Data-type-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
27. Date-created
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-added.
(1.A.2)
28. Date-modified
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-last-modified.
(1.A.3)
29. DB-alg-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
30. DB-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
31. DB-id-of-member
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-record.
(1.N.17)
32. DB-of-RT-id
SIMILAR: This is similar to the IRDS meta-entity from module 2: File-contains-record.
(1.N.17)
33. DB-location

- SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-last-modified.
(1.A.3)
34. DB-mod-instance
SIMILAR: This is similar to the IRDS VERSION-IDENTIFIER from module 1.
35. DB-model.
SAME: This is much the same as the IRDS meta-entity from module 2: Access-method.
(1.B.2)
36. DB-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
37. DB-password
DIFFERENT: This does not compare to a feature in the IRDS.
38. DBMS-access
DIFFERENT: This does not compare to a feature in the IRDS.
39. DBMS-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
40. Dep-EC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
41. Desc-text
SAME: This is much the same as the IRDS meta-entity from module 2: Description.
(1.B.19)
42. Desc-type
DIFFERENT: This does not compare to a feature in the IRDS.
43. DF-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
44. DF-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
45. DF-usage-code
DIFFERENT: This does not compare to a feature in the IRDS.
46. Di-alg-use-code

- DIFFERENT: This does not compare to a feature in the IRDS.
47. DI-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
48. DI-mod-instance
SIMILAR: This is similar to the IRDS VERSION-IDENTIFIER from module 1.
49. DI-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
50. DI-usage-code
DIFFERENT: This does not compare to a feature in the IRDS.
51. Distinct-ind
DIFFERENT: This does not compare to a feature in the IRDS.
52. Distr-retr-rule
DIFFERENT: This does not compare to a feature in the IRDS.
53. Distr-updt-rule
DIFFERENT: This does not compare to a feature in the IRDS.
54. Domain-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
55. Domain-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
56. EC-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
57. EC-name-type
DIFFERENT: This does not compare to a feature in the IRDS.
58. EC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
59. End-value
SAME: This is much the same as the IRDS meta-entity from module 2: High-of-range.
(1.B.28)
60. File-name

- SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
61. Filler-size
SAME: This is much the same as the IRDS meta-entity from module 2: Length.
(1.B.38)
62. Generated-by
DIFFERENT: This does not compare to a feature in the IRDS.
63. Generated-date
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-added.
(1.A.2)
64. Host-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
65. HP-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
66. Impact-luw
SAME: This is much the same as the IRDS ACCESS-NAME from module 1. This is a temporary attribute
67. Ind-EC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
68. Index-by-DF-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
69. Index-indicator
DIFFERENT: This does not compare to a feature in the IRDS.
70. Integer-null
SIMILAR: This is similar to the IRDS meta-entity from module 2: Data-class.
(1.B.14)
71. Is-action
DIFFERENT: This does not compare to a feature in the IRDS.
72. Join-type
DIFFERENT: This does not compare to a feature in the IRDS.
73. KC-name

- SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
74. KC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
75. KCM-tag-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
76. Key-class-EC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
77. Key-feedback-length
SAME: This is much the same as the IRDS meta-entity from module 2: Length.
(1.B.38)
78. Key-type
DIFFERENT: This does not compare to a feature in the IRDS.
79. KW-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
80. Lang-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
81. Last-case-no
SIMILAR: This is similar to the IRDS VERSION-IDENTIFIER from module 1.
82. Last-comp-stat
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-last-modified.
(1.A.3)
83. Latest-rev-date
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-last-modified.
(1.A.3)
84. Line-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
85. Link-RC-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
86. Linkage-type

- DIFFERENT: This does not compare to a feature in the IRDS.
87. Local-remote
DIFFERENT: This does not compare to a feature in the IRDS.
88. LUW-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
89. Map-category
DIFFERENT: This does not compare to a feature in the IRDS.
90. Map-class
DIFFERENT: This does not compare to a feature in the IRDS.
91. Map-type
DIFFERENT: This does not compare to a feature in the IRDS.
92. Max-no-dep-ent
DIFFERENT: This does not compare to a feature in the IRDS.
93. Max-no-ind-ent
DIFFERENT: This does not compare to a feature in the IRDS.
94. Max-size
SAME: This is much the same as the IRDS meta-entity from module 2: Length.
(1.B.38)
95. Min-no-dep-ent
DIFFERENT: This does not compare to a feature in the IRDS.
96. Mod-abstract
SAME: This is much the same as the IRDS meta-entity from module 2: Description.
(1.B.19)
97. Mod-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
98. Mod-title
SAME: This is much the same as the IRDS DESCRIPTIVE-NAME from module 1.
99. Model-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.

- 100. Model-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
- 101. Model-status
DIFFERENT: This does not compare to a feature in the IRDS.
- 102. Module-type
DIFFERENT: This does not compare to a feature in the IRDS.
- 103. No-ind-ent
DIFFERENT: This does not compare to a feature in the IRDS.
- 104. No-of-decimals
SAME: This is much the same as the IRDS meta-entity from module 2: Precision.
(1.B.48)
- 105. No-of-occurs
SAME: This is much the same as the IRDS meta-attribute-type from module 1: Maximum-number-of occurrences.
(III.AB)
- 106. NTM-directory
DIFFERENT: This does not compare to a feature in the IRDS.
- 107. Obj-com-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
- 108. Obj-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
- 109. Obj-type
DIFFERENT: This does not compare to a feature in the IRDS.
- 110. Obj-user-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1. This is a temporary CDM attribute
- 111. Object-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
- 112. Occ-depend-DF-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 113. Param-id

- DIFFERENT: This does not compare to a feature in the IRDS.
114. Param-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
115. Param-purpose
SAME: This is much the same as the IRDS meta-entity from module 2: Description.
(1.B.19)
116. PCB-seq-no
SIMILAR: This is similar to the IRDS meta-entity from module 2: Relative-position. This is a fuzzy relative position of a file within a file.
(1.B.53)
117. Precomp-date
SAME: This is much the same as the IRDS meta-entity from module 2: Date-time-added.
(1.A.2)
118. Pref-no
DIFFERENT: This does not compare to a feature in the IRDS.
119. Prim-PSB-name-secondary
This attribute has been removed from the current CDM.
120. Prim-secondary
This attribute has been removed from the current CDM.
121. PSB-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
122. QC-cond-type
DIFFERENT: This does not compare to a feature in the IRDS.
123. QC-condition-no
SAME: This is much the same as the IRDS meta-entity from module 2: Relative-position.
(1.B.53)
124. QC-text
DIFFERENT: This does not compare to a feature in the IRDS.
125. QC-text-no
SAME: This is much the same as the IRDS meta-entity from module 2: Relative-position.
(1.B.53)
126. QC-text-type

- DIFFERENT: This does not compare to a feature in the IRDS.
127. RC-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
128. RC-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
129. Rec-key-code
DIFFERENT: This does not compare to a feature in the IRDS.
130. Rec-seq-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
131. Redef-DF-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
132. Rel-type
DIFFERENT: This does not compare to a feature in the IRDS.
133. Report-message
SAME: This is much the same as the IRDS meta-entity from module 2: Comments.
(1.B.13)
134. Req-mem-ind
DIFFERENT: This does not compare to a feature in the IRDS.
135. RP-main-file
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
136. RT-alg-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
137. RT-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
138. RT-id-of-member
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
139. RT-id-of-owner
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
140. RT-mod-instance

- SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
141. RT-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
142. Schema-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
143. Sequence-no
SAME: This is much the same as the IRDS meta-entity from module 2: Relative-position.
(1.B.53)
144. Set-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
145. Set-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
146. Software-module
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
147. Specific-value
SAME: This is much the same as the IRDS meta-entity from module 2: Allowable-value.
(1.B.6)
148. Status-ind
DIFFERENT: This does not compare to a feature in the IRDS.
149. Stmt-action
DIFFERENT: This does not compare to a feature in the IRDS.
150. Subschema-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
151. Subtrans-id
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
152. Tag-name
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
153. Tag-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.

- 154. Total-num-mem
SAME: This is much the same as the IRDS meta-attribute-type from module 1: Maximum-number-of occurrences.
(III.AB)
- 155. Type-desc
SAME: This is much the same as the IRDS meta-entity from module 2: Description.
(1.B.19)
- 156. Type-id
SAME: This is much the same as the IRDS meta-entity from module 2: Data-type.
(1.B.15)
- 157. Union-value
SAME: This is much the same as the IRDS meta-entity from module 2: Allowable-value.
(1.B.6)
- 158. USDF-DT-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
- 159. User-mod-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
- 160. Verif-file
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
- 161. View-di-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
- 162. View-id
SAME: This is much the same as the IRDS ACCESS-NAME from module 1.
- 163. View-no
SIMILAR: This is similar to the IRDS ASSIGNED-ACCESS-NAME from module 1.
- 164. CDM-version
- 165. User-name
- 166. Date-granted
- 167. Description
- 168. Permissions
- 169. Role
- 170. Table-name

II. Meta-Relationship-Types

A. Entity-type-contains-attribute-type

1. Application-impact-contains-app-CDM-no
DIFFERENT: This does not compare to a feature in the IRDS.
2. Application-impact-contains-app-user-id
DIFFERENT: This does not compare to a feature in the IRDS.
3. Application-impact-contains-impact-luw
DIFFERENT: This does not compare to a feature in the IRDS.
4. Application-impact-contains-software-module
DIFFERENT: This does not compare to a feature in the IRDS.
5. Application-impact-contains-view-DI-ID
DIFFERENT: This does not compare to a feature in the IRDS.
6. attribute-class-contains-ac-no
DIFFERENT: This does not compare to a feature in the IRDS.
7. attribute-class-contains-domain-no
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-internal-format (II.E.21)
8. attribute-class-contains-model-no
DIFFERENT: This does not compare to a feature in the IRDS.
9. Attribute-keyword-contains-ac-no
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-classification (II.E.14)
10. Attribute-keyword-contains-kc-no
DIFFERENT: This does not compare to a feature in the IRDS.
11. Attribute-name-contains-ac-name
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-identification-names (II.D.7)
12. Attribute-name-contains-ac-name-type
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-identification-names (II.D.7)
13. Attribute-name-contains-ac-no

- DIFFERENT: This does not compare to a feature in the IRDS.
14. Attribute-use-cl-contains-ac-no
DIFFERENT: This does not compare to a feature in the IRDS.
15. Attribute-use-cl-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
16. Attribute-use-cl-contains-tag-name
DIFFERENT: This does not compare to a feature in the IRDS.
17. Attribute-use-cl-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
18. AUC-constraint-contains-constraint-no
DIFFERENT: This does not compare to a feature in the IRDS.
19. AUC-constraint-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
20. AUC-constraint-contains-stmt-action
DIFFERENT: This does not compare to a feature in the IRDS.
21. AUC-constraint-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
22. AUC-IS-mapping-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
23. AUC-IS-mapping-contains-map-category
DIFFERENT: This does not compare to a feature in the IRDS.
24. AUC-IS-mapping-contains-map-class
DIFFERENT: This does not compare to a feature in the IRDS.
25. AUC-IS-mapping-contains-map-type
DIFFERENT: This does not compare to a feature in the IRDS.
26. AUC-IS-mapping-contains-pref-no
DIFFERENT: This does not compare to a feature in the IRDS.
27. AUC-IS-mapping-contains-rt-no

- DIFFERENT: This does not compare to a feature in the IRDS.
28. AUC-IS-mapping-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
29. AUC-parm-contains-auc-alg-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
30. AUC-parm-contains-auc-mod-instance
DIFFERENT: This does not compare to a feature in the IRDS.
31. AUC-parm-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
32. AUC-parm-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
33. AUC-parm-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
34. AUC-ST-mapping-contains-auc-value
DIFFERENT: This does not compare to a feature in the IRDS.
35. AUC-ST-mapping-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
36. AUC-ST-mapping-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
37. AUC-ST-mapping-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
38. AUC-ST-mapping-contains-set-id
DIFFERENT: This does not compare to a feature in the IRDS.
39. AUC-ST-mapping-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
40. Category-member-contains-domain-no
DIFFERENT: This does not compare to a feature in the IRDS.
41. Category-member-contains-ec-no

- DIFFERENT: This does not compare to a feature in the IRDS.
42. Category-member-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
43. Category-member-contains-specific-value
DIFFERENT: This does not compare to a feature in the IRDS.
44. CDMP-generated-mod-contains-case-no
DIFFERENT: This does not compare to a feature in the IRDS.
45. CDMP-generated-mod-contains-file-name
DIFFERENT: This does not compare to a feature in the IRDS.
46. CDMP-generated-mod-contains-generated-by
SIMILAR: This is similar to the IRDS meta-relationship from module 2 Module-contains-added-by(II.E.24)
47. CDMP-generated-mod-contains-generated-date
SAME: This is much the same as the IRDS meta-relationship from module 2 Module-contains-date-time-last-modified (II.D.20)
48. CDMP-generated-mod-contains-host-id
SAME: This is much the same as the IRDS meta-relationship from module 2 Module-contains-location (II.E.69)
SIMILAR: This is similar to the IRDS meta-relationship from module 2 Program-contains-location (II.E.78)
49. CDMP-generated-mod-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
50. CDMP-generated-mod-contains-module-type
SAME: This is much the same as the IRDS meta-relationship from module 2 Module-contains-classification (II.E.50)
51. CDMP-generated-mod-contains-user-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
52. Commands-contains-CDM-user-id
DIFFERENT: This does not compare to a feature in the IRDS.
53. Commands-contains-Com-CDM-no
DIFFERENT: This does not compare to a feature in the IRDS.

- 54. Commands-contains-report-message
DIFFERENT: This does not compare to a feature in the IRDS.
- 55. Complete-relation-contains-kc-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 56. Complete-relation-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 57. Component-data-field-contains-component-df-df
DIFFERENT: This does not compare to a feature in the IRDS.
- 58. Const-parm-contains-const-alg-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
- 59. Const-parm-contains-const-mod-instance
DIFFERENT: This does not compare to a feature in the IRDS.
- 60. Const-parm-contains-constant-value
DIFFERENT: This does not compare to a feature in the IRDS.
- 61. Const-parm-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 62. Const-parm-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 63. Constraint-input-contains-constraint-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 64. Constraint-input-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 65. Constraint-input-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 66. Constraint-input-contains-stmt-action
DIFFERENT: This does not compare to a feature in the IRDS.
- 67. Constraint-input-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 68. Data-base-area-contains-area-id

- DIFFERENT: This does not compare to a feature in the IRDS.
69. Data-base-area-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
70. Data-base-contains-character-null
SIMILAR: This is similar to the IRDS meta-relationship from module 2 Element-contains-data-class (II.E.17)
71. Data-base-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
72. Data-base-contains-db-name
DIFFERENT: This does not compare to a feature in the IRDS.
73. Data-base-contains-dbms-name
DIFFERENT: This does not compare to a feature in the IRDS.
74. Data-base-contains-host-id
DIFFERENT: This does not compare to a feature in the IRDS.
75. Data-base-contains-integer-null
SIMILAR: This is similar to the IRDS meta-relationship from module 2 Element-contains-data-class (II.E.17)
76. Data-base-contains-NTM-directory
DIFFERENT: This does not compare to a feature in the IRDS.
77. Data-base-password-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
78. Data-base-password-contains-db-password
DIFFERENT: This does not compare to a feature in the IRDS.
79. Data-field-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
80. Data-field-contains-dbms-access
DIFFERENT: This does not compare to a feature in the IRDS.
81. Data-field-contains-df-id
DIFFERENT: This does not compare to a feature in the IRDS.
82. Data-field-contains-df-no

- DIFFERENT: This does not compare to a feature in the IRDS.
83. Data-field-contains-index-indicator
DIFFERENT: This does not compare to a feature in the IRDS.
84. Data-field-contains-no-df-occurs
DIFFERENT: This does not compare to a feature in the IRDS.
85. Data-field-contains-rec-key-code
DIFFERENT: This does not compare to a feature in the IRDS.
86. Data-field-contains-rec-seq-no
SAME: This is much the same as the IRDS meta-relationship from module 2 Module-contains-element-contains-relative-position (II.M.13)
87. Data-field-contains-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
88. Data-field-filler-contains-filler-size
DIFFERENT: This does not compare to a feature in the IRDS.
89. Data-field-parameter-contains-df-alf-use-code
DIFFERENT: This does not compare to a feature in the IRDS.
90. Data-field-parameter-contains-df-mod-instance
DIFFERENT: This does not compare to a feature in the IRDS.
91. Data-field-parameter-contains-df-no
DIFFERENT: This does not compare to a feature in the IRDS.
92. Data-field-parameter-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
93. Data-field-parameter-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
94. Data-field-redefinition-contains-redef-df-no
DIFFERENT: This does not compare to a feature in the IRDS.
95. Data-field-set-linkage-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
96. Data-field-set-linkage-contains-db-id-of-member

- DIFFERENT: This does not compare to a feature in the IRDS.
97. Data-field-set-linkage-contains-df-id
DIFFERENT: This does not compare to a feature in the IRDS.
98. Data-field-set-linkage-contains-linkage-type
DIFFERENT: This does not compare to a feature in the IRDS.
99. Data-field-set-linkage-contains-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
100. Data-field-set-linkage-contains-rt-id-of-member
DIFFERENT: This does not compare to a feature in the IRDS.
101. Data-field-set-linkage-contains-set-id
DIFFERENT: This does not compare to a feature in the IRDS.
102. Data-field-usage-contains-
DIFFERENT: This does not compare to a feature in the IRDS.
103. Data-field-usage-contains-df-no
DIFFERENT: This does not compare to a feature in the IRDS.
104. Data-field-usage-contains-df-usage-code
DIFFERENT: This does not compare to a feature in the IRDS.
105. Data-field-usage-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
106. Data-item-contains-data-type-name
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-internal format (II.E.21)
107. Data-item-contains-di-id
DIFFERENT: This does not compare to a feature in the IRDS.
108. Data-item-contains-di-no
DIFFERENT: This does not compare to a feature in the IRDS.
109. Data-item-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
110. Data-item-parameter-contains-di-alg-use-code

- DIFFERENT: This does not compare to a feature in the IRDS.
111. Data-item-parameter-contains-di-mod-instance
DIFFERENT: This does not compare to a feature in the IRDS.
112. Data-item-parameter-contains-di-no
DIFFERENT: This does not compare to a feature in the IRDS.
113. Data-item-parameter-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
114. Data-item-parameter-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
115. Data-item-usage-contains-di-no
DIFFERENT: This does not compare to a feature in the IRDS.
116. Data-item-usage-contains-di-usage-code
DIFFERENT: This does not compare to a feature in the IRDS.
117. Data-item-usage-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
118. Data-type-contains-type-desc
DIFFERENT: This does not compare to a feature in the IRDS.
119. Data-type-contains-type-id
DIFFERENT: This does not compare to a feature in the IRDS.
120. DB-area-assignment-contains-area-id
DIFFERENT: This does not compare to a feature in the IRDS.
121. DB-area-assignment-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
122. DB-area-assignment-contains-db-id-of-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
123. DB-area-assignment-contains-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
124. DBMS-on-host-contains-dbms-name

- DIFFERENT: This does not compare to a feature in the IRDS.
125. DBMS-on-host-contains-host-id
DIFFERENT: This does not compare to a feature in the IRDS.
126. Description-text-contains-desc-text
SAME: IRDS treats the description as an attribute and not an entity. The CDM does not differentiate between comments and description. This is much the same as the meta-relationships in the IRDS from module 1: Element-contains-comments (II.E.16), Element-contains-description (II.E.19), File-contains-comments (II.E.31), File-contains-description (II.E.32), Module-contains-comments (II.E.65), Module-contains-description (II.E.66), Module-contains-comments (II.E.74), Module-contains-description (II.E.75), Record-contains-comments (II.E.83), Record-contains-description (II.E.84),
127. Description-text-contains-desc-type
SAME: IRDS treats the description as an attribute and not an entity.
128. Description-text-contains-line-no
SAME: IRDS treats the description as an attribute and not an entity.
129. Description-text-contains-object-no
SAME: IRDS treats the description as an attribute and not an entity.
130. Description-text-contains-object-type
SAME: IRDS treats the description as an attribute and not an entity.
131. Description-type-contains-desc-type
SAME: IRDS treats the description as an attribute and not an entity.
132. Distributed-rules-contains-distr-retr-rule
DIFFERENT: This does not compare to a feature in the IRDS.
133. Distributed-rules-contains-distr-updt-rule
DIFFERENT: This does not compare to a feature in the IRDS.
134. Distributed-rules-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
135. Domain-class-contains-domain-name

- DIFFERENT: This does not compare to a feature in the IRDS.
136. Domain-class-contains-domain-no
DIFFERENT: This does not compare to a feature in the IRDS.
137. Domain-range-contains-begin-value
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-allowable-range (II.D.4)
138. Domain-range-contains-domain-no
DIFFERENT: This does not compare to a feature in the IRDS.
139. Domain-range-contains-end-value
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-allowable-range (II.D.4)
140. Domain-value-contains-domain-no
DIFFERENT: This does not compare to a feature in the IRDS.
141. Domain-value-contains-specific-value
DIFFERENT: This does not compare to a feature in the IRDS.
142. Elementary-data-field-contains-data-type-name
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-internal-format (II.E.21)
143. Entity-class-constraint-contains-constraint-no
DIFFERENT: This does not compare to a feature in the IRDS.
144. Entity-class-constraint-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
145. Entity-class-constraint-contains-stmt-action
DIFFERENT: This does not compare to a feature in the IRDS.
146. Entity-class-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
147. Entity-class-contains-model-no
DIFFERENT: This does not compare to a feature in the IRDS.
148. Entity-class-keyword-contains-ec-no

- DIFFERENT: This does not compare to a feature in the IRDS.
149. Entity-class-keyword-contains-kw-no
DIFFERENT: This does not compare to a feature in the IRDS.
150. Entity-class-record-type-join-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
151. Entity-class-record-type-join-contains-join-type
DIFFERENT: This does not compare to a feature in the IRDS.
152. Entity-class-record-type-join-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
153. Entity-class-record-type-join-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
154. Entity-class-record-type-mapping-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
155. Entity-class-record-type-mapping-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
156. Entity-class-record-type-union-discriminator-contains-comparison-no
DIFFERENT: This does not compare to a feature in the IRDS.
157. Entity-class-record-type-union-discriminator-contains-df-no
DIFFERENT: This does not compare to a feature in the IRDS.
158. Entity-class-record-type-union-discriminator-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
159. Entity-class-record-type-union-discriminator-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
160. Entity-class-record-type-union-discriminator-contains-union-value
DIFFERENT: This does not compare to a feature in the IRDS.

- 161. Entity-name-contains-ec-name
SAME: This along with Entity-name-contains-ec-name-type is much the same as the IRDS meta-relationship from module 2 Record-contains-identification-names (II.D.29)
- 162. Entity-name-contains-ec-name-type
SAME: This along with Entity-name-contains-ec-name is much the same as the IRDS meta-relationship from module 2 Record-contains-identification-names (II.D.29)
- 163. Entity-name-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 164. External-schema-usage-contains-
DIFFERENT: This does not compare to a feature in the IRDS.
- 165. Horizontal-part-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 166. Horizontal-part-contains-hp-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 167. Horizontal-part-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 168. IISS-DBMS-contains-db-model
DIFFERENT: This does not compare to a feature in the IRDS.
- 169. IISS-DBMS-contains-dbms-name
DIFFERENT: This does not compare to a feature in the IRDS.
- 170. IISS-host-contains-host-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 171. IISS-host-contains-host-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 172. IISS-keyword-contains-CDM-keyword
DIFFERENT: This does not compare to a feature in the IRDS.
- 173. IISS-keyword-contains-kw-no
DIFFERENT: This does not compare to a feature in the IRDS.
- 174. IISS_PSB-contains-host-id

- DIFFERENT: This does not compare to a feature in the IRDS.
175. IISS_PSB-contains-PSB-name
DIFFERENT: This does not compare to a feature in the IRDS.
176. Index-data-field-contains-index-by-df-no
DIFFERENT: This does not compare to a feature in the IRDS.
177. Inherited-Attribute-Use-contains-kc-no
DIFFERENT: This does not compare to a feature in the IRDS.
178. Inherited-Attribute-Use-contains-kcm-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
179. Inherited-Attribute-Use-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
180. Inherited-Attribute-Use-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
181. Key-class-contains-kc-name
DIFFERENT: This does not compare to a feature in the IRDS.
182. Key-class-contains-kc-no
DIFFERENT: This does not compare to a feature in the IRDS.
183. Key-class-contains-key-class-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
184. Key-class-contains-key-type
DIFFERENT: This does not compare to a feature in the IRDS.
185. Key-class-member-contains-kc-no
DIFFERENT: This does not compare to a feature in the IRDS.
186. Key-class-member-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
187. Link-relation-contains-dep-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
188. Link-relation-contains-ind-ec-no

- DIFFERENT: This does not compare to a feature in the IRDS.
189. Link-relation-contains-link-rc-name
DIFFERENT: This does not compare to a feature in the IRDS.
190. Link-relation-contains-max-no-dep-ent
DIFFERENT: This does not compare to a feature in the IRDS.
191. Link-relation-contains-min-no-dep-ent
DIFFERENT: This does not compare to a feature in the IRDS.
192. Link-relation-contains-no-ind-ent
DIFFERENT: This does not compare to a feature in the IRDS.
193. Link-relation-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
194. Log-unit-work-contains-last-case-no
DIFFERENT: This does not compare to a feature in the IRDS.
195. Log-unit-work-contains-LUW-name
DIFFERENT: This does not compare to a feature in the IRDS.
196. Model-class-contains-date-created
DIFFERENT: This does not compare to a feature in the IRDS.
197. Model-class-contains-date-modified
DIFFERENT: This does not compare to a feature in the IRDS.
198. Model-class-contains-model-name
DIFFERENT: This does not compare to a feature in the IRDS.
199. Model-class-contains-model-no
DIFFERENT: This does not compare to a feature in the IRDS.
200. Model-class-contains-model-status
DIFFERENT: This does not compare to a feature in the IRDS.
201. Module-parameter-contains-data-type-name
DIFFERENT: This does not compare to a feature in the IRDS.
202. Module-parameter-contains-mod-id

- DIFFERENT: This does not compare to a feature in the IRDS.
203. Module-parameter-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
204. Module-parameter-contains-parm-name
DIFFERENT: This does not compare to a feature in the IRDS.
205. Module-parameter-contains-parm-purpose
DIFFERENT: This does not compare to a feature in the IRDS.
206. NDML-module-contains-last-comp-stat
DIFFERENT: This does not compare to a feature in the IRDS.
207. NDML-module-contains-LUW-name
DIFFERENT: This does not compare to a feature in the IRDS.
208. NDML-module-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
209. NDML-module-contains-precomp-date
DIFFERENT: This does not compare to a feature in the IRDS.
210. Object-com-trace-contains-obj-com-no
DIFFERENT: This does not compare to a feature in the IRDS.
211. Object-com-trace-contains-obj-name
DIFFERENT: This does not compare to a feature in the IRDS.
212. Object-com-trace-contains-obj-type
DIFFERENT: This does not compare to a feature in the IRDS.
213. Object-com-trace-contains-obj-user-id
DIFFERENT: This does not compare to a feature in the IRDS.
214. Object-com-trace-contains-sequence-no
DIFFERENT: This does not compare to a feature in the IRDS.
215. Owned-attribute-contains-ac-no
DIFFERENT: This does not compare to a feature in the IRDS.
216. Owned-attribute-contains-ec-no

- DIFFERENT: This does not compare to a feature in the IRDS.
217. Project-data-field-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
218. Project-data-field-contains-df-id
DIFFERENT: This does not compare to a feature in the IRDS.
219. Project-data-field-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
220. Project-data-field-contains-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
221. Project-data-field-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
222. Project-data-field-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
223. Project-data-item-contains-di-no
DIFFERENT: This does not compare to a feature in the IRDS.
224. Project-data-item-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
225. Project-data-item-contains-prim-secondary
DIFFERENT: This does not compare to a feature in the IRDS.
226. Project-data-item-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
227. Project-data-item-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
228. PSB-PCB-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
229. PSB-PCB-contains-key-feedback-len
DIFFERENT: This does not compare to a feature in the IRDS.
230. PSB-PCB-contains-pcb-seq-no

- DIFFERENT: This does not compare to a feature in the IRDS.
231. PSB-PCB-contains-psb-name
DIFFERENT: This does not compare to a feature in the IRDS.
232. Record-set-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
233. Record-set-contains-rt-id-of-owner
DIFFERENT: This does not compare to a feature in the IRDS.
234. Record-set-contains-set-id
DIFFERENT: This does not compare to a feature in the IRDS.
235. Record-set-contains-set-no
DIFFERENT: This does not compare to a feature in the IRDS.
236. Record-set-contains-total-num-mem
DIFFERENT: This does not compare to a feature in the IRDS.
237. Record-set-usage-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
238. Record-set-usage-contains-set-no
DIFFERENT: This does not compare to a feature in the IRDS.
239. Record-type-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
240. Record-type-contains-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
241. Record-type-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
242. Record-type-parameter-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
243. Record-type-parameter-contains-parm-id
DIFFERENT: This does not compare to a feature in the IRDS.
244. Record-type-parameter-contains-rt-alg-use-code

- DIFFERENT: This does not compare to a feature in the IRDS.
245. Record-type-parameter-contains-rt-mod-instance
DIFFERENT: This does not compare to a feature in the IRDS.
246. Record-type-parameter-contains-rt-no
DIFFERENT: This does not compare to a feature in the IRDS.
247. Relation-class-based-record-set-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
248. Relation-class-based-record-set-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
249. Relation-class-based-record-set-contains-rt-id
DIFFERENT: This does not compare to a feature in the IRDS.
250. Relation-class-based-record-set-contains-set-id
DIFFERENT: This does not compare to a feature in the IRDS.
251. Relation-class-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
252. Relation-class-contains-rel-type
DIFFERENT: This does not compare to a feature in the IRDS.
253. Relation-class-keyword-contains-kw-no
DIFFERENT: This does not compare to a feature in the IRDS.
254. Relation-class-keyword-contains-rc-no
DIFFERENT: This does not compare to a feature in the IRDS.
255. Repeating-data-field-occurrence-counter-contains-occ-depend-df-no
DIFFERENT: This does not compare to a feature in the IRDS.
256. Request-processor-main-contains-creation-date
SAME: This is much the same as the IRDS meta-relationship from module 2 Program-contains-date-time-last-modified (II.D.24)
257. Request-processor-main-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.

- 258. Request-processor-main-contains-local-remote
DIFFERENT: This does not compare to a feature in the IRDS.
- 259. Request-processor-main-contains-LUW-name
DIFFERENT: This does not compare to a feature in the IRDS.
- 260. Request-processor-main-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 261. Request-processor-main-contains-rp-main-file
DIFFERENT: This does not compare to a feature in the IRDS.
- 262. Request-processor-subroutine-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 263. Request-processor-subroutine-contains-is-action
DIFFERENT: This does not compare to a feature in the IRDS.
- 264. Request-processor-subroutine-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 265. Request-processor-subroutine-contains-subtrans-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 266. Schema-names-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 267. Schema-names-contains-db-location
DIFFERENT: This does not compare to a feature in the IRDS.
- 268. Schema-names-contains-schema-name
DIFFERENT: This does not compare to a feature in the IRDS.
- 269. Schema-names-contains-subschema-name
DIFFERENT: This does not compare to a feature in the IRDS.
- 270. Set-type-member-contains-db-id
DIFFERENT: This does not compare to a feature in the IRDS.
- 271. Set-type-member-contains-db-id-of-member
DIFFERENT: This does not compare to a feature in the IRDS.
- 272. Set-type-member-contains-req-mem-ind

- DIFFERENT: This does not compare to a feature in the IRDS.
273. Set-type-member-contains-rt-id-of-member
DIFFERENT: This does not compare to a feature in the IRDS.
274. Set-type-member-contains-set-id
DIFFERENT: This does not compare to a feature in the IRDS.
275. Software-module-contains-lang-name
DIFFERENT: This does not compare to a feature in the IRDS.
276. Software-module-contains-latest-rev-date
SAME: This is much the same as the IRDS meta-relationships from module 2 Module-contains-date-time-last-modified (II.D.20), & Program-contains-date-time-last-modified (II.D.24)
277. Software-module-contains-mod-abstract
SAME: This is much the same as the IRDS meta-relationships from module 2 Program-contains-comments (II.E.74), Program-contains-description (II.E.75), Module-contains-comments (II.E.65), & Module-contains-description (II.E.66),
278. Software-module-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
279. Software-module-contains-mod-title
DIFFERENT: This does not compare to a feature in the IRDS.
280. Software-module-contains-status-ind
DIFFERENT: This does not compare to a feature in the IRDS.
281. User-defined-data-type-contains-data-type-ind
DIFFERENT: This does not compare to a feature in the IRDS.
282. User-defined-data-type-contains-data-type-name
DIFFERENT: This does not compare to a feature in the IRDS.
283. User-defined-data-type-contains-domain-no
DIFFERENT: This does not compare to a feature in the IRDS.
284. User-defined-data-type-contains-max-size

- SAME: . This is much the same as the IRDS meta-relationship from module 2 Element-contains-length (II.E.24)
285. User-defined-data-type-contains-no-of-decimals
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-precision (II.E.26)
286. User-defined-data-type-contains-type-id
SAME: This is much the same as the IRDS meta-relationship from module 2 Element-contains-internal-format (II.E.21)
287. User-defined-data-type-contains-usdf-dt-no
DIFFERENT: This does not compare to a feature in the IRDS.
288. User-view-contains-distinct-ind
DIFFERENT: This does not compare to a feature in the IRDS.
289. User-view-contains-view-id
DIFFERENT: This does not compare to a feature in the IRDS.
290. User-view-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
291. Verify-module-contains-domain-no
DIFFERENT: This does not compare to a feature in the IRDS.
292. Verify-module-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
293. Verify-module-contains-verif-file
DIFFERENT: This does not compare to a feature in the IRDS.
294. View-entity-class-Xref-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
295. View-entity-class-Xref-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
296. View-qualify-criteria-contains-qc-cond-type
DIFFERENT: This does not compare to a feature in the IRDS.
297. View-qualify-criteria-contains-qc-condition-no

- DIFFERENT: This does not compare to a feature in the IRDS.
298. View-qualify-criteria-contains-qc-text
DIFFERENT: This does not compare to a feature in the IRDS.
299. View-qualify-criteria-contains-qc-text-no
DIFFERENT: This does not compare to a feature in the IRDS.
300. View-qualify-criteria-contains-qc-text-type
DIFFERENT: This does not compare to a feature in the IRDS.
301. View-qualify-criteria-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
302. View-qualify-Xref-contains-ec-no
DIFFERENT: This does not compare to a feature in the IRDS.
303. View-qualify-Xref-contains-tag-no
DIFFERENT: This does not compare to a feature in the IRDS.
304. View-qualify-Xref-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
305. View-usage-contains-mod-id
DIFFERENT: This does not compare to a feature in the IRDS.
306. View-usage-contains-view-no
DIFFERENT: This does not compare to a feature in the IRDS.
307. CDM-contains-CDM-version
SAME:
308. CDM-contains-date-created
DIFFERENT: This does not compare to a feature in the IRDS.
309. CDM-user-contains-CDM-version
DIFFERENT: This does not compare to a feature in the IRDS.
310. CDM-user-contains-date-granted
SAME:
311. CDM-user-contains-description
DIFFERENT: This does not compare to a feature in the IRDS.
312. CDM-user-contains-role

SAME:

313. CDM-user-contains-user-name

DIFFERENT: This does not correspond to a feature in the IRDS.

314. User-tab-auth-contains-permissions

SAME:

315. User-tab-auth-contains-table-name

SAME:

316. User-tab-auth-contains-user-name

SAME:

B. Relationship-type-connects-entity-type

1. Attribute-class-is-assigned-to-owned-attribute-connects-attribute-class
2. Attribute-class-is-assigned-to-owned-attribute-connects-owned-attribute
3. Attribute-class-is-identified-by-attribute-name-connects-attribute-class
4. Attribute-class-is-identified-by-attribute-name-connects-attribute-name
5. Attribute-class-is-recognized-by-AC-keyword-connects-AC-keyword
6. Attribute-class-is-recognized-by-AC-keyword-connects-attribute-class
7. Attribute-use-class-appears-as-project-data-item-connects-Attribute-use-class
8. Attribute-use-class-appears-as-project-data-item-connects-project-data-item
9. Attribute-use-class-appears-in-AUC-constraint-connects-Attribute-use-class
10. Attribute-use-class-appears-in-AUC-constraint-connects-AUC-constraint-connects
11. Attribute-use-class-is-an-inherited-attribute-use-connects-Attribute-use-class
12. Attribute-use-class-is-an-inherited-attribute-use-connects-inherited-attribute-use
13. Attribute-use-class-maps-to-internal-schema-via-AUC-IS-mapping-connects-Attribute-use-class
14. Attribute-use-class-maps-to-internal-schema-via-AUC-IS-mapping-connects-AUC-IS-mapping
15. Attribute-use-class-maps-via-AUC-parameter-connects-Attribute-use-class
16. Attribute-use-class-maps-via-AUC-parameter-connects-AUC-parameter

17. Attribute-use-class-may-appear-in-view-qualify-Xref-connects-Attribute-use-class
18. Attribute-use-class-may-appear-in-view-qualify-Xref-connects-view-qualify-Xref
19. Attribute-use-class-serves-as-key-class-member-connects-Attribute-use-class
20. Attribute-use-class-serves-as-key-class-member-connects-key-class-member
21. AUC-constraint-is-basis-for-constraint-input-connects-AUC-constraint
22. AUC-constraint-is-basis-for-constraint-input-connects-constraint-input
23. AUC-IS-mapping-has-many-AUC-ST-mapping-connects-AUC-IS-mapping
24. AUC-IS-mapping-has-many-AUC-ST-mapping-connects-AUC-ST-mapping
25. AUC-IS-mapping-has-many-project-data-field-connects-AUC-IS-mapping
26. AUC-IS-mapping-has-many-project-data-field-connects-project-data-field
27. Category-relation-is-subset-of-relation-class-connects-Category-relation
28. Category-relation-is-subset-of-relation-class-connects-relation-class
29. CDMF-generated-module-is-a-RP-Subroutine-connects-CDMP-generated-module
30. CDMF-generated-module-is-a-RP-Subroutine-connects-RP-Subroutine
31. Complete-relation-is-basis-for-EC-RT-join-connects-Complete-relation
32. Complete-relation-is-basis-for-EC-RT-join-connects-EC-RT-join
33. Complete-relation-is-migration-path-for-inherited-attribute-use-connects-
34. Complete-relation-is-migration-path-for-inherited-attribute-use-connects-Complete-relation
35. Data-base-appears-in-RP-main-connects-Data-base
36. Data-base-appears-in-RP-main-connects-RP-main
37. Data-base-area-is-used-in-DB-area-assignment-connects-Data-base-area
38. Data-base-area-is-used-in-DB-area-assignment-connects-DB-area-assignment

39. Data-base-is-accessed-by-CDMP-generated-module-connects-CDMP-generated-module
40. Data-base-is-accessed-by-CDMP-generated-module-connects-Data-base
41. Data-base-is-accessed-by-RP-subroutine-connects-Data-base
42. Data-base-is-accessed-by-RP-subroutine-connects-RP-subroutine
43. Data-base-is-composed-of-data-base-area-connects-Data-base
44. Data-base-is-composed-of-data-base-area-connects-data-base-area
45. Data-base-is-structured-by-record-type-connects-Data-base
46. Data-base-is-structured-by-record-type-connects-record-type
47. Data-base-may-be-accessed-by-schema-names-connects-Data-base
48. Data-base-may-be-accessed-by-schema-names-connects-schema-names
49. Data-base-may-be-defined-in-PSB-PCB-connects-Data-base
50. Data-base-may-be-defined-in-PSB-PCB-connects-PSB-PCB
51. Data-base-may-have-access-controlled-by-DB-password-connects-Data-base
52. Data-base-may-have-access-controlled-by-DB-password-connects-DB-password
53. Data-field-has-repeating-DF-occ-counter-connects-Data-field
54. Data-field-has-repeating-DF-occ-counter-connects-DF-occ-counter
55. Data-field-indexed-by-index-DF-connects-Data-field
56. Data-field-indexed-by-index-DF-connects-index-DF
57. Data-field-is-a-component-data-field-connects-component-data-field
58. Data-field-is-a-component-data-field-connects-Data-field
59. Data-field-is-a-data-field-redefinition-connects-Data-field
60. Data-field-is-a-data-field-redefinition-connects-data-field-redefinition

61. Data-field-is-a-elementary-data-field-connects-Data-field
62. Data-field-is-a-elementary-data-field-connects-elementary-data-field
63. Data-field-is-a-group-of-component-data-field-connects-component-data-field
64. Data-field-is-a-group-of-component-data-field-connects-Data-field
65. Data-field-is-a-index-DF-connects-Data-field
66. Data-field-is-a-index-DF-connects-index-DF
67. Data-field-is-a-repeating-DF-occ-counter-connects-Data-field
68. Data-field-is-a-repeating-DF-occ-counter-connects-repeating-DF-occ-counter
69. Data-field-is-accessed-by-data-field-usage-connects-Data-field
70. Data-field-is-accessed-by-data-field-usage-connects-data-field-usage
71. Data-field-is-indexed-by-index-DF-connects-Data-field
72. Data-field-is-indexed-by-index-DF-connects-index-DF
73. Data-field-is-redefined-by-data-field-redefinition-connects-Data-field
74. Data-field-is-redefined-by-data-field-redefinition-connects-data-field-redefinition
75. Data-field-is-used-as-ECRTUD-connects-Data-field
76. Data-field-is-used-as-ECRTUD-connects-ECRTUD
77. Data-field-maps-to-conceptual-schema-via-project-data-field-connects-
78. Data-field-maps-to-conceptual-schema-via-project-data-field-connects-Data-field
79. Data-field-maps-via-data-field-parameter-connects-Data-field
80. Data-field-maps-via-data-field-parameter-connects-data-field-parameter
81. Data-field-may-appear-as-DF-set-linkage-connects-Data-field
82. Data-field-may-appear-as-DF-set-linkage-connects-DF-set-linkage
83. Data-field-may-be-data-field-filler-connects-Data-field
84. Data-field-may-be-data-field-filler-connects-data-field-filler
85. Data-item-is-accessed-by-data-item-usage-connects-Data-item

86. Data-item-is-accessed-by-data-item-usage-connects-data-item-usage
87. Data-item-is-accessed-by-ES-usage-connects-Data-item
88. Data-item-is-accessed-by-ES-usage-connects-ES-usage
89. Data-item-maps-to-conceptual-schema-via-project-data-item-connects-Data-item
90. Data-item-maps-to-conceptual-schema-via-project-data-item-connects-project-data-item
91. Data-item-maps-via-data-item-parameter-connects-Data-item
92. Data-item-maps-via-data-item-parameter-connects-data-item-parameter
93. Data-type-supplies-user-defined-data-type-connects-Data-type
94. Data-type-supplies-user-defined-data-type-connects-user-defined-data-type
95. DBMS-on-host-controls-data-base-connects-data-base
96. DBMS-on-host-controls-data-base-connects-DBMS-on-host
97. Description-type-applies-to-description-text-connects-description-text
98. Description-type-applies-to-description-text-connects-Description-type
99. Domain-class-consists-of-domain-range-connects-Domain-class
100. Domain-class-consists-of-domain-range-connects-domain-range
101. Domain-class-consists-of-domain-value-connects-Domain-class
102. Domain-class-consists-of-domain-value-connects-domain-value
103. Domain-class-has-verify-module-connects-Domain-class
104. Domain-class-has-verify-module-connects-verify-module
105. Domain-class-may-be-represented-with-user-defined-data-type-connects-Domain-class
106. Domain-class-may-be-represented-with-user-defined-data-type-connects-user-defined-data-type
107. Domain-class-supplies-values-to-attribute-class-connects-attribute-class
108. Domain-class-supplies-values-to-attribute-class-connects-Domain-class
109. Domain-value-discriminates-for-category-member-connects-category-member

- 110. Domain-value-discriminates-for-category-member-connects-Domain-value
- 111. EC-constraint-involves-AUC-constraint-connects-AUC-constraint
- 112. EC-constraint-involves-AUC-constraint-connects-EC-constraint
- 113. EC-RT-mapping-involves-EC-RT-join-connects-EC-RT-join
- 114. EC-RT-mapping-involves-EC-RT-join-connects-EC-RT-mapping
- 115. EC-RT-mapping-is-distinguished-by-ECRTUD-connects-EC-RT-mapping
- 116. EC-RT-mapping-is-distinguished-by-ECRTUD-connects-ECRTUD
- 117. EC-RT-mapping-maps-via-AUC-IS-mapping-connects-AUC-IS-mapping
- 118. EC-RT-mapping-maps-via-AUC-IS-mapping-connects-EC-RT-mapping
- 119. Entity-class-appears-in-EC-constraint-connects-EC-constraint
- 120. Entity-class-appears-in-EC-constraint-connects-Entity-class
- 121. Entity-class-contains-attribute-use-class-connects-attribute-use-class
- 122. Entity-class-contains-attribute-use-class-connects-Entity-class
- 123. Entity-class-has-key-class-connects-Entity-class
- 124. Entity-class-has-key-class-connects-key-class
- 125. Entity-class-is-dependent-in-link-relation-connects-Entity-class
- 126. Entity-class-is-dependent-in-link-relation-connects-link-relation
- 127. Entity-class-is-generic-in-category-relation-connects-category-relation
- 128. Entity-class-is-generic-in-category-relation-connects-Entity-class
- 129. Entity-class-is-identified-by-entity-name-connects-Entity-class
- 130. Entity-class-is-identified-by-entity-name-connects-entity-name
- 131. Entity-class-is-independent-in-link-relation-connects-Entity-class

- 132. Entity-class-is-independent-in-link-relation-connects-link-relation
- 133. Entity-class-is-recognized-by-EC-keyword-connects-EC-keyword
- 134. Entity-class-is-recognized-by-EC-keyword-connects-Entity-class
- 135. Entity-class-is-subset-as-category-member-connects-category-member
- 136. Entity-class-is-subset-as-category-member-connects-Entity-class
- 137. Entity-class-maps-to-internal-schema-via-EC-RT-mapping-connects-EC-RT-mapping
- 138. Entity-class-maps-to-internal-schema-via-EC-RT-mapping-connects-Entity-class
- 139. Entity-class-maps-to-internal-schema-via-horizontal-part-connects-Entity-class
- 140. Entity-class-maps-to-internal-schema-via-horizontal-part-connects-horizontal-part
- 141. Entity-class-owns-owned-attribute-connects-Entity-class
- 142. Entity-class-owns-owned-attribute-connects-owned-attribute
- 143. Entity-class-specifies-distributed-rules-connects-distributed-rules
- 144. Entity-class-specifies-distributed-rules-connects-Entity-class
- 145. IISS-DBMS-appears-on-DBMS-on-host-connects-DBMS-on-host
- 146. IISS-DBMS-appears-on-DBMS-on-host-connects-IISS-DBMS
- 147. IISS-host-has-CDMP-generated-module-connects-CDMP-generated-module
- 148. IISS-host-has-CDMP-generated-module-connects-IISS-host
- 149. IISS-host-has-DBMS-on-host-connects-DBMS-on-host
- 150. IISS-host-has-DBMS-on-host-connects-IISS-host
- 151. IISS-host-provides-access-to-IISS-PSB-connects-IISS-host
- 152. IISS-host-provides-access-to-IISS-PSB-connects-IISS-PSB
- 153. IISS-host-stores-CDMP-generated-module-connects-CDMP-generated-module

154. IISS-host-stores-CDMP-generated-module-connects-IISS-host
155. IISS-keyword-identifies-AC-keyword-connects-AC-keyword
156. IISS-keyword-identifies-AC-keyword-connects-IISS-keyword
157. IISS-keyword-identifies-EC-keyword-connects-EC-keyword
158. IISS-keyword-identifies-EC-keyword-connects-IISS-keyword
159. IISS-keyword-identifies-RC-keyword-connects-IISS-keyword
160. IISS-keyword-identifies-RC-keyword-connects-RC-keyword
161. IISS-PSB-consists-of-PSB-PCB-connects-IISS-PSB
162. IISS-PSB-consists-of-PSB-PCB-connects-PSB-PCB
163. Key-class-is-composed-of-key-class-member-connects-Key-class
164. Key-class-is-composed-of-key-class-member-connects-key-class-member
165. Key-class-makes-specific-complete-relation-connects-complete-relation
166. Key-class-makes-specific-complete-relation-connects-Key-class
167. Link-relation-is-subset-of-relation-class-connects-Link-relation
168. Link-relation-is-subset-of-relation-class-connects-relation-class
169. Log-unit-work-is-composed-of-CDMP-generated-module-connects-CDMP-generated-module
170. Log-unit-work-is-composed-of-CDMP-generated-module-connects-Log-unit-work
171. Log-unit-work-is-composed-of-NDML-module-connects-Log-unit-work
172. Log-unit-work-is-composed-of-NDML-module-connects-NDML-module
173. Log-unit-work-is-distributed-to-RP-main-connects-Log-unit-work
174. Log-unit-work-is-distributed-to-RP-main-connects-RP-main
175. Model-class-identifies-attribute-class-connects-attribute-class

176. Model-class-identifies-attribute-class-connects-Model-class
177. Model-class-identifies-entity-class-connects-entity-class
178. Model-class-identifies-entity-class-connects-Model-class
179. Module-parameter-is-a-AUC-parameter-connects-
180. Module-parameter-is-a-AUC-parameter-connects-Module-parameter
181. Module-parameter-is-a-complex-mapping-parameter-connects-complex-mapping-parameter
182. Module-parameter-is-a-complex-mapping-parameter-connects-Module-parameter
183. Module-parameter-is-a-constraint-input-connects-constraint-input
184. Module-parameter-is-a-constraint-input-connects-Module-parameter
185. Module-parameter-is-a-constraint-parameter-connects-constraint-parameter
186. Module-parameter-is-a-constraint-parameter-connects-Module-parameter
187. Module-parameter-is-a-data-field-parameter-connects-data-field-parameter
188. Module-parameter-is-a-data-field-parameter-connects-Module-parameter
189. Module-parameter-is-a-data-item-parameter-connects-data-item-parameter
190. Module-parameter-is-a-data-item-parameter-connects-Module-parameter
191. Module-parameter-is-a-relation-type-parameter-connects-Module-parameter
192. Module-parameter-is-a-relation-type-parameter-connects-relation-type-parameter
193. NDML-module-accesses-data-item-usage-connects-data-item-usage
194. NDML-module-accesses-data-item-usage-connects-NDML-module
195. NDML-module-accesses-ES-usage-connects-ES-usage
196. NDML-module-accesses-ES-usage-connects-NDML-module
197. NDML-module-deletes-ES-usage-connects-ES-usage
198. NDML-module-deletes-ES-usage-connects-NDML-module
199. NDML-module-deletes-view-usage-connects-NDML-module
200. NDML-module-deletes-view-usage-connects-view-usage

- 201. NDML-module-generates-CDMP-generated-module-connects-CDMP-generated-module
- 202. NDML-module-generates-CDMP-generated-module-connects-NDML-module
- 203. Owned-attribute-appears-as attribute-use-class-connects-attribute-use-class
- 204. Owned-attribute-appears-as attribute-use-class-connects-Owned-attribute
- 205. Record-set-has-set-type-member-connects-Record-set
- 206. Record-set-has-set-type-member-connects-set-type-member
- 207. Record-set-is-accessed-by-record-set-usage-connects-Record-set
- 208. Record-set-is-accessed-by-record-set-usage-connects-record-set-usage
- 209. Record-set-maps-to-conceptual-schema-via-AUC-ST-mapping-connects-AUC-ST-mapping
- 210. Record-set-maps-to-conceptual-schema-via-AUC-ST-mapping-connects-Record-set
- 211. Record-type-appears-as-set-type-member-connects-Record-type
- 212. Record-type-appears-as-set-type-member-connects-set-type-member
- 213. Record-type-contains-data-field-connects-data-field
- 214. Record-type-contains-data-field-connects-Record-type
- 215. Record-type-has-DB-area-assignment-connects-DB-area-assignment
- 216. Record-type-has-DB-area-assignment-connects-Record-type
- 217. Record-type-is-owner-in-record-set-connects-record-set
- 218. Record-type-is-owner-in-record-set-connects-Record-type
- 219. Record-type-maps-to-conceptual-schema-via-AUC-IS-mapping-connects-AUC-IS-mapping
- 220. Record-type-maps-to-conceptual-schema-via-AUC-IS-mapping-connects-Record-type
- 221. Record-type-maps-to-conceptual-schema-via-EC-RT-mapping-connects-EC-RT-mapping
- 222. Record-type-maps-to-conceptual-schema-via-EC-RT-mapping-connects-Record-type
- 223. Record-type-maps-to-conceptual-schema-via-horizontal-part-connects-horizontal-part

- 224. Record-type-maps-to-conceptual-schema-via-horizontal-part-connects-Record-type
- 225. Record-type-maps-via-record-type-parameter-connects-Record-type
- 226. Record-type-maps-via-record-type-parameter-connects-record-type-parameter
- 227. Relation-class-is-made-specific-by-complete-relation-connects-complete-relation
- 228. Relation-class-is-made-specific-by-complete-relation-connects-Relation-class
- 229. Relation-class-is-recognized-by-RC-keyword-connects-RC-keyword
- 230. Relation-class-is-recognized-by-RC-keyword-connects-Relation-class
- 231. Relation-class-maps-to-internal-schema-via-RC-based-record-set-connects-RC-based-record-set
- 232. Relation-class-maps-to-internal-schema-via-RC-based-record-set-connects-Relation-class
- 233. Set-type-member-maps-to-conceptual-schema-via-RC-based-record-set-connects-RC-based-record-set
- 234. Set-type-member-maps-to-conceptual-schema-via-RC-based-record-set-connects-Set-type-member
- 235. Set-type-member-may-contain-DF-set-linkage-connects-DF-set-linkage
- 236. Set-type-member-may-contain-DF-set-linkage-connects-Set-type-member
- 237. Software-module-accesses-data-field-usage-connects-data-field-usage
- 238. Software-module-accesses-data-field-usage-connects-Software-module
- 239. Software-module-is-a-CDMP-generated-module-connects-CDMP-generated-module
- 240. Software-module-is-a-CDMP-generated-module-connects-Software-module
- 241. Software-module-is-a-RP-main-connects-RP-main
- 242. Software-module-is-a-RP-main-connects-Software-module
- 243. Software-module-is-used-as-verify-module-connects-Software-module
- 244. Software-module-is-used-as-verify-module-connects-verify-module
- 245. Software-module-may-be-NDML-module-connects-NDML-module

- 246. Software-module-may-be-NDML-module-connects-Software-module
- 247. Software-module-navigates-via-record-set-usage-connects-record-set-usage
- 248. Software-module-navigates-via-record-set-usage-connects-Software-module
- 249. Software-module-uses-values-supplied-via-module-parameter-connects-module-parameter
- 250. Software-module-uses-values-supplied-via-module-parameter-connects-Software-module
- 251. User-defined-data-type-describes-module-parameter-connects-module-parameter
- 252. User-defined-data-type-describes-module-parameter-connects-User-defined-data-type
- 253. User-defined-data-type-implements-data-item-connects-implements-data-item
- 254. User-defined-data-type-implements-data-item-connects-User-defined-data-type
- 255. User-defined-data-type-implements-elementary-data-field-connects-elementary-data-field
- 256. User-defined-data-type-implements-elementary-data-field-connects-User-defined-data-type
- 257. User-view-contains-data-item-connects-data-item-connects-
- 258. User-view-contains-data-item-connects-User-view
- 259. User-view-is-deleted-by-ES-usage-connects-ES-usage
- 260. User-view-is-deleted-by-ES-usage-connects-User-view
- 261. User-view-is-deleted-by-view-usage-connects-User-view
- 262. User-view-is-deleted-by-view-usage-connects-view-usage
- 263. User-view-is-part-of-view-EC-Xref-connects-User-view
- 264. User-view-is-part-of-view-EC-Xref-connects-view-EC-Xref
- 265. User-view-may-contain-view-qualify-criteria-connects-User-view
- 266. User-view-may-contain-view-qualify-criteria-connects-view-qualify-criteria
- 267. View-EC-Xref-contains-project-data-item-connects-project-data-item
- 268. View-EC-Xref-contains-project-data-item-connects-View-EC-Xref

- 269. View-EC-Xref-may-contain-view-qualify-Xref-connects-View-EC-Xref
- 270. View-EC-Xref-may-contain-view-qualify-Xref-connects-view-qualify-Xref
- 271. CDM-has-CDM-user-connects-CDM
- 272. CDM-has-CDM-user-connects-CDM-user
- C. Relationship-type-contains-attribute-type
 - 1. Categorization-contains-discriminator

III. Meta-Attribute-Types

See Attribute-types (I.C). Since the CDM uses itself to describe the CDM, attribute-types and meta-attribute-types are the same.

- A. AC-name
- B. AC-name-type
- C. AC-no
- D. App-CDM-no
- E. App-user-id
- F. Area-id
- G. AUC-alg-use-code
- H. AUC-mod-instance
- I. AUC-value
- J. Begin-value
- K. Case-no
- L. Cat-type-code
- M. Category-RC-name
- N. CDM-com-no
- O. CDM-keyword
- P. CDM-user-id
- Q. Character-null
- R. Comparison-op
- S. Component-of-DF
- T. Const-alg-use-code
- U. Const-mod-instance
- V. Constant-value
- W. Constraint-no
- X. Creation-date
- Y. Data-type-ind
- Z. Data-type-name
- AA. Date-created
- AB. Date-modified
- AC. DB-alg-use-code
- AD. DB-id
- AE. DB-id-of-member
- AF. DB-is-of-RT-id
- AG. DB-location
- AH. DB-mod-instance
- AI. DB-model
- AJ. DB-name
- AK. DB-password
- AL. DBMS-access
- AM. DBMS-name

AN.	Dep-EC-no
AO.	Desc-text
AP.	Desc-type
AQ.	DF-id
AR.	DF-no
AS.	DF-usage-code
AT.	Di-alg-use-code
AU.	DI-id
AV.	DI-mod-instance
AW.	DI-no
AX.	DI-usage-code
AY.	Distinct-ind
AZ.	Distr-retr-rule
BA.	Distr-updt-rule
BB.	Domain-name
BC.	Domain-no
BD.	EC-name
BE.	EC-name-type
BF.	EC-no
BG.	End-value
BH.	File-name
BI.	Filler-size
BJ.	Generated-by
BK.	Generated-date
BL.	Host-id
BM.	HP-no
BN.	Impact-luw
BO.	Ind-EC-no
BP.	Index-by-DF-no
BQ.	Index-indicator
BR.	Integer-null
BS.	Is-action
BT.	Join-type
BU.	KC-name
BV.	KC-no
BW.	KCM-tag-no
BX.	Key-class-EC-no
BY.	Key-feedback-length
BZ.	Key-type
CA.	KW-no
CB.	Lang-name
CC.	Last-case-no
CD.	Last-comp-stat

CE.	Latest-rev-date
CF.	Line-no
CG.	Link-RC-name
CH.	Linkage-type
CI.	Local-remote
CJ.	LUW-name
CK.	Map-category
CL.	Map-class
CM.	Map-type
CN.	Max-no-dep-ent
CO.	Max-no-ind-ent
CP.	Max-size
CQ.	Min-no-dep-ent
CR.	Mod-abstract
CS.	Mod-id
CT.	Mod-title
CU.	Model-name
CV.	Model-no
CW.	Model-status
CX.	Module-type
CY.	No-ind-ent
CZ.	No-of-decimals
DA.	No-of-occurs
DB.	NTM-directory
DC.	Obj-com-no
DD.	Obj-name
DE.	Obj-type
DF.	Obj-user-id
DG.	Object-no
DH.	Occ-depend-DF-no
DI.	Param-id
DJ.	Param-name
DK.	Param-purpose
DL.	PCB-seq-no
DM.	Precomp-date
DN.	Pref-no
DO.	Prim-PSB-name-secondary
DP.	Prim-secondary
DQ.	PSB-name
DR.	QC-cond-type
DS.	QC-condition-no
DT.	QC-text
DU.	QC-text-no

DV.	QC-text-type
DW.	RC-name
DX.	RC-no
DY.	Rec-key-code
DZ.	Rec-seq-no
EA.	Redef-DF-no
EB.	Rel-type
EC.	Reoprt-message
ED.	Req-mem-ind
EE.	RP-main-file
EF.	RT-alg-use-code
EG.	RT-id
EH.	RT-id-of-member
EI.	RT-id-of-owner
EJ.	RT-mod-instance
EK.	RT-no
EL.	Schema-name
EM.	Sequence-no
EN.	Set-id
EO.	Set-no
EP.	Software-module
EQ.	Specific-value
ER.	Status-ind
ES.	Stmt-action
ET.	Subschema-name
EU.	Subtrans-id
EV.	Tag-name
EW.	Tag-no
EX.	Total-num-mem
EY.	Type-desc
EZ.	Type-id
FA.	Union-value
FB.	USDF-DT-no
FC.	User-mod-id
FD.	Verif-file
FE.	View-di-id
FF.	View-id
FG.	View-no

APPENDIX H

The IRDS AND RELATED STANDARDS

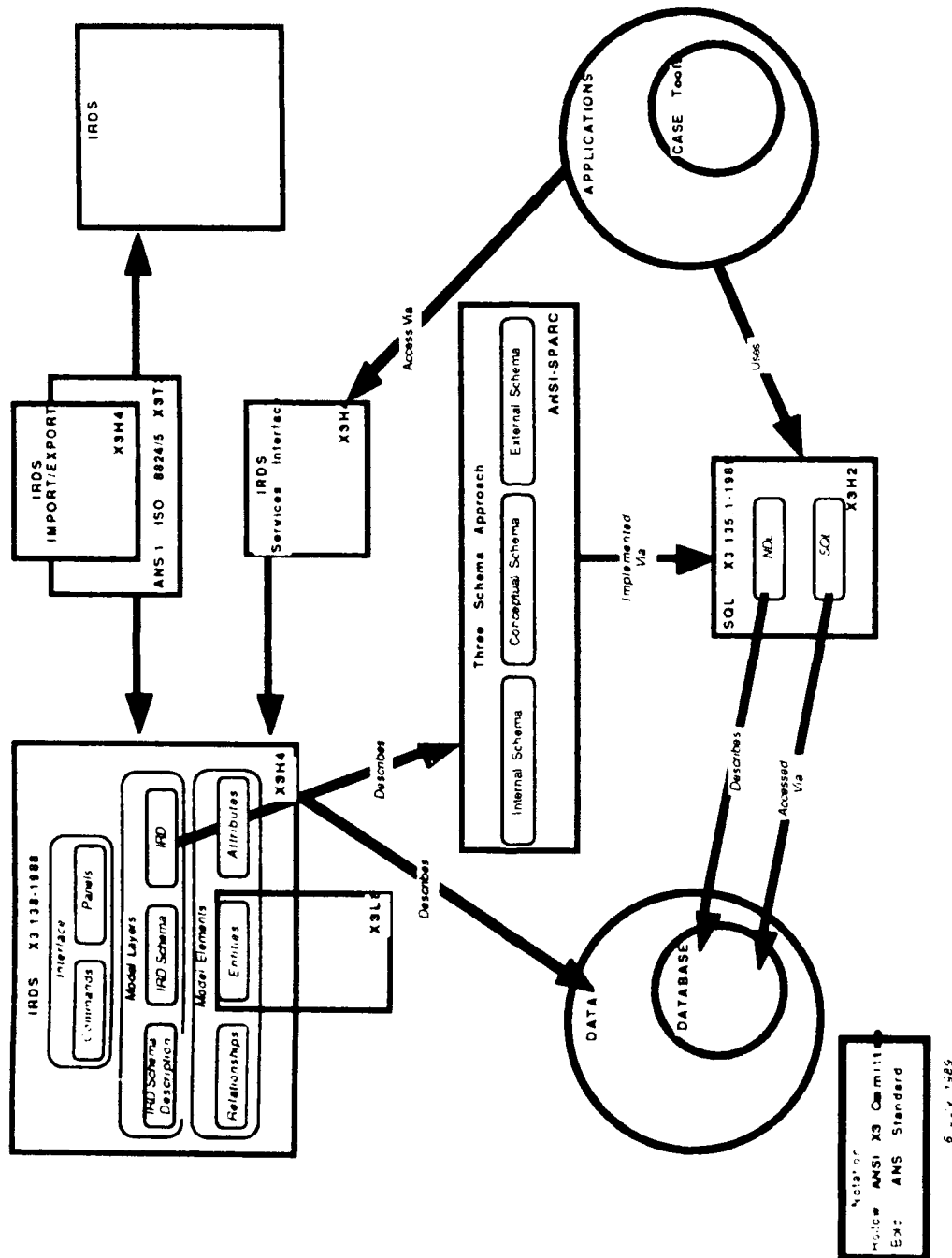


Figure H-1: The IRDS & Related Standards